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ABSTRACT

The Instructional Improvement Questionnaire (IIQ) is a student rating form designed to provide evaluative feedback to instructors about their teaching. The IIQ was first developed at Southern Illinois University at Carbondale in 1969 and revised in 1972. The documents included here describe the development of the IIQ and research associated with it. Results from the IIQ may be used for teacher promotion and annual salary reviews, student course selection, and evaluating course effectiveness. Results are released only on authorization of the instructor. The present IIQ form has four parts: a student biographic section, an instructor evaluation section (20 items), a course evaluation section (20 items), and an optional item section where instructors can have students respond to as many as 60 items prepared by individual departments or faculty. Students respond directly on OpScan answer sheets which are computer processed. additional research reported deals with an effectiveness study of the evaluation of instruction program by the faculty in winter 1973, a cross-validation of the IIQ deciles from 1971 to fall 1972, norms for required and elective courses by course level for the IIQ--fall 1971, a summary of research on the relationships between student characteristics and student evaluations of instruction at Southern Illinois University, a description of effective college teaching in five disciplines as measured by student ratings, and evaluating instructional effectiveness with the IIQ. A copy of the IIQ is appended. (RC)

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ED121828

THE INSTRUCTIONAL IMPROVEMENT QUESTIONNAIRE

JOHN T. POHLMANN and PATRICIA B. ELMORE

Southern Illinois University

The Instructional Improvement Questionnaire (IIQ) is a student rating form designed to provide evaluative feedback to instructors about their teaching. The IIQ was first developed at Southern Illinois University at Carbondale in 1969 and revised in 1972. This article describes the development of the IIQ and research associated with it.

Development

Development of the IIQ began in 1969 with a review of the existing research literature and copies of many student rating forms used at universities throughout the United States. From this review, rating items were selected for inclusion in a local item pool, along with locally prepared items. The item pool was then reviewed by a committee composed of students, faculty, and measurement specialists. A trial form of the IIQ was used on a pilot basis in thirty courses in 1969, and students and faculty who participated in the pilot study were asked to react to the form. After reviewing student and faculty comments, a 72-item form of the IIQ was prepared and administered on a voluntary basis for one year. Subsequently, the IIQ was further revised and shortened to a 49-item form which has been in use for three years. In revising the IIQ, three criteria were used to eliminate items. They were (a) time to complete the form, (b) item variability across courses, and (c) an item's relationship to factors derived from a factor analysis of the IIQ items. A section of forced-choice items, modeled after the Purdue Instructor Performance Indicator (Snedeker & Remmers, 1960) was eliminated because the faculty felt the information took too long to collect. Four

IM005 259

items were removed from the IIQ because the variability of responses across course means was too small. These same four items also possessed low loadings on factors derived from the IIQ items. The items retained in the IIQ possessed standard deviations across course means greater than .4 on a 5-point Likert scale. The IIQ now in use can be administered to a class of 30 students in approximately 10 minutes, and is composed of items that maximally differentiate among instructors.

Participation in the IIQ evaluation at Southern Illinois University (SIU) is voluntary. Approximately 2,000 courses are evaluated annually with the IIQ, and this represents 40 percent of the courses taught at SIU in a year. Results from the IIQ are used in a number of ways for faculty development and faculty evaluation. IIQ results may be used by faculty as a measure of teaching effectiveness in their promotion and annual salary reviews. Students have used IIQ data to select instructors and courses. The campus Learning Resources Service used IIQ data as one criterion when evaluating the effectiveness of the courses that they develop. In all cases, a faculty member's results are released only to individuals and agencies upon the written authorization of the instructor.

The present IIQ form has four parts: (a) a student biographic data section, (b) an instructor evaluation section (20 items), (c) a course evaluation section (20 items), and (d) an optional item section where instructors can have students respond to items prepared by individual departments or faculty. The students respond to the IIQ directly on an OpScan answer sheet. The answer sheets are scanned and computer processed. The instructor receives a computerized report of the students' responses. Special norm tables are used to provide results to the instructor in terms of campus-wide norms and course type norms based on required and elective courses at each level

(freshmen, sophomores, etc.). An instructor's results are compared to the normative sample of over 2,000 courses evaluated in 1974-75 by quoting the decile equivalent of each item mean on the computer printout. Additionally, subscores derived from homogeneous subsets of items, identified in a factor analysis of the IIQ, are compared to courses at five course levels (freshman through graduate) for required and elective courses. The instructor's subscores are reported as decile equivalents in the distributions of responses from various combinations of courses, based on course level and the required-elective nature of the course.

Research Conducted on the IIQ

Research with the IIQ has fallen into five broad categories: (a) faculty reactions to the IIQ, (b) reliability of IIQ results, (c) relationship between class characteristics and IIQ results, and (e) a description of effective college teaching using the IIQ.

Two studies were conducted to determine faculty reactions to the IIQ (Pohlmann, 1973a;Elmore, 1975). In both surveys, 83 percent of the faculty members using the IIQ felt that the results represented a generally accurate indication of their teaching effectiveness. Only four percent responding to the 1973 survey considered the results not helpful or a waste of time, and only eight percent in the 1975 survey considered the information provided by the IIQ as not useful.

Internal consistency and test-retest reliability studies show the IIQ subscales to be reasonably reliable. Internal consistency coefficients (Cronbach's alpha) range from .62 to .93 for the five IIQ subscales. The subscales were derived from a factor analysis of the 40 IIQ items. Three-month test-retest correlations on the five IIQ subscales ranged from .67 to .76 (Pohlmann, 1973b). The reliability studies were conducted on samples of data that were not used in the factor analysis studies.

Pohlmann (1975b) conducted a study to determine the relationship between course characteristics and IIQ results. The results of that study indicated that the most predictive class characteristic variables were the grades expected by the students and the percent of students taking the course as an elective. These two variables were positively and moderately related to IIQ results.

A study conducted by Elmore and LaPointe (1974) assessed the influence of faculty sex and student sex on teacher evaluations using the IIQ. In general, this study found that there were no differences between the mean ratings given male and female faculty by male and female students. A followup study (Elmore & LaPointe, 1975) analyzed perceived teacher warmth along with faculty sex and student sex. The results indicated that, when students rated their instructors' interest and warmth, teachers who were warmer and seemed primarily interested in students received higher ratings on teacher effectiveness.

Pohlmann (1975a) used the IIQ to examine the specific rating correlates of a general rating of instructional effectiveness. This study suggested that the effective teacher was an individual who was well-prepared, organized in presenting material, achieved the course objectives and increased the student's appreciation of the subject matter.

In conclusion, the Instructional Improvement Questionnaire has become a valuable feedback device for college instructors and for research in the field of teacher effectiveness.

REFERENCES

ELMORE, P. B. Evaluation of the IIQ service by faculty, spring 1975 (Tech. Rep. 7.2-75). Carbondale, Illinois: Southern Illinois University, Student Affairs Research and Evaluation Center, July 1975.

ELMORE, P. B., & LAPOINTE, K. A. Effect of teacher sex, student sex and teacher warmth on the evaluation of college instructors. Journal of Educational Psychology, 1975, 67, 368-374.

ELMORE, P. B., & LAPOINTE, K. A. Effects of teacher sex and student sex on the evaluation of college instructors. Journal of Educational Psychology, 1974, 66, 386-389.

POHLMANN, J. T. An evaluation of the evaluation of instruction program by faculty, winter 1973 (Tech. Rep. 5.1-73). Carbondale, Illinois: Southern Illinois University, Testing Center, May 1973.

POHLMANN, J. T. Evaluating instructional effectiveness with the Instructional Improvement Questionnaire (Tech. Rep. 7.2-73). Carbondale, Illinois: Southern Illinois University, Testing Center, July 1973.

POHLMANN, J. T. A description of teaching effectiveness as measured by student ratings. Journal of Educational Measurement, 1975, 12, 49-54. a

POHLMANN, J. T. A multivariate analysis of selected class characteristics and student ratings of instruction. Multivariate Behavioral Research, 1975, 10, 81-91. b

SNEDEKER, J. H., & REMMERS, H. H. Manual, the Purdue Instructor Performance Indicator. West Lafayette, Indiana: University Book Store, 1960.

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INSTRUCTIONAL IMPROVEMENT QUESTIONNAIRE

Testing Center - Southern Illinois University at Carbondale

UTILITY 1 (1 2 3 4 5 6 7 8 9)

EXPECTED GRADE IN THIS COURSE: A B C D E

GPA AT THIS SCHOOL: 4.0-4.49 3.5-3.99 3.0-3.49 2.5-2.99 1.0-2.49

OUTSIDE STUDY HOURS: 0 TO 1 / 1 TO 2 / 2 TO 4 / 4 TO 6 / 6 TO 8 / 8 OR MORE

TRANSFER STUDENT: YES / NO

INSTRUCTION AT THIS SCHOOL IS, IN GENERAL: EXCELLENT / VERY GOOD / GOOD / WEAK / POOR

UTILITY 2 (1 2 3 4 5)

MARK YOUR COLLEGE: AGRIC / BUSINESS / COMM & FA / EDUCATION / ENGIN & TECH / HOME EC / LAS / LAW / MEDICINE / UNCLASSIFIED / OTHER

ARE YOU: FRESHMAN / SOPHOMORE / JUNIOR / SENIOR / GRAD / OTHER

ARE YOU: MALE / FEMALE

IS THIS COURSE: REQUIRED / ELECTIVE

DIRECTIONS:
1. Print Instructor's Name _____, Date _____
2. Print Course Number _____ and Section Number _____
3. Respond to the items presented frankly and completely - one response per item. (SEE RESPONSE OPTIONS)

PART I: INSTRUCTOR EVALUATION (ITEMS 1-20)

RESPONSE OPTIONS:

E = EXCEPTIONAL PERFORMANCE
V = VERY GOOD PERFORMANCE
G = GOOD PERFORMANCE
W = WEAK PERFORMANCE
I = IMPROVEMENT DEFINITELY NEEDED

1	E V G W I	Prepared for class
2	E V G W I	Made clear assignments
3	E V G W I	Set clear standards for grading
4	E V G W I	Graded fairly
5	E V G W I	Knew if students understood him
6	E V G W I	Spoke understandably
7	E V G W I	Answered impromptu questions satisfactorily
8	E V G W I	Showed an interest in the course
9	E V G W I	Gave several examples to explain complex ideas
10	E V G W I	Accepted criticism and suggestions
11	E V G W I	Increased your appreciation for the subject
12	E V G W I	Was dependable in holding class as scheduled
13	E V G W I	Specified objectives of the course
14	E V G W I	Achieved the specified objectives of the course
15	E V G W I	Promptly returned homework and tests
16	E V G W I	Showed an interest in students
17	E V G W I	Knew his subject matter
18	E V G W I	Was available outside of class
19	E V G W I	Encouraged student participation
20	E V G W I	In general, taught the class effectively

PART II: COURSE EVALUATION (ITEMS 21-40)

RESPONSE OPTIONS:

SA = STRONGLY AGREE
A = AGREE
N = NEITHER AGREE NOR DISAGREE
D = DISAGREE
SD = STRONGLY DISAGREE

21	SA A N D SD	This course was a good learning experience.
22	SA A N D SD	The content of this course was good.
23	SA A N D SD	The course was well organized.
24	SA A N D SD	I had trouble paying attention in class.
25	SA A N D SD	There should be additional prerequisites.
26	SA A N D SD	There should be fewer prerequisites.
27	SA A N D SD	This course was very interesting.
28	SA A N D SD	The amount of required work was appropriate.
29	SA A N D SD	This course was one of the best I have taken.
30	SA A N D SD	The tests covered the course material well.
31	SA A N D SD	This course was a waste of time.
32	SA A N D SD	The textbook was good.
33	SA A N D SD	Audio-visuals could be used more effectively.
34	SA A N D SD	This course should be taught in some other way.
35	SA A N D SD	I covered this material in other courses.
36	SA A N D SD	The course material was too difficult.
37	SA A N D SD	This course should continue to be offered.
38	SA A N D SD	The reading assignments were hard to understand.
39	SA A N D SD	I was often confused.
40	SA A N D SD	Generally, the course was good.

PART III: OPTIONAL (ITEMS 41-100)

COMPLETE SECTION BELOW ACCORDING TO YOUR INSTRUCTOR'S DIRECTIONS.

41	A	B	C	D	E	71	A	B	C	D	E
42	A	B	C	D	E	72	A	B	C	D	E
43	A	B	C	D	E	73	A	B	C	D	E
44	A	B	C	D	E	74	A	B	C	D	E
45	A	B	C	D	E	75	A	B	C	D	E
46	A	B	C	D	E	76	A	B	C	D	E
47	A	B	C	D	E	77	A	B	C	D	E
48	A	B	C	D	E	78	A	B	C	D	E
49	A	B	C	D	E	79	A	B	C	D	E
50	A	B	C	D	E	80	A	B	C	D	E
51	A	B	C	D	E	81	A	B	C	D	E
52	A	B	C	D	E	82	A	B	C	D	E
53	A	B	C	D	E	83	A	B	C	D	E
54	A	B	C	D	E	84	A	B	C	D	E
55	A	B	C	D	E	85	A	B	C	D	E
56	A	B	C	D	E	86	A	B	C	D	E
57	A	B	C	D	E	87	A	B	C	D	E
58	A	B	C	D	E	88	A	B	C	D	E
59	A	B	C	D	E	89	A	B	C	D	E
60	A	B	C	D	E	90	A	B	C	D	E
61	A	B	C	D	E	91	A	B	C	D	E
62	A	B	C	D	E	92	A	B	C	D	E
63	A	B	C	D	E	93	A	B	C	D	E
64	A	B	C	D	E	94	A	B	C	D	E
65	A	B	C	D	E	95	A	B	C	D	E
66	A	B	C	D	E	96	A	B	C	D	E
67	A	B	C	D	E	97	A	B	C	D	E
68	A	B	C	D	E	98	A	B	C	D	E
69	A	B	C	D	E	99	A	B	C	D	E
70	A	B	C	D	E	100	A	B	C	D	E

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Student Affairs Research and Evaluation Center

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AN EVALUATION OF THE EVALUATION OF INSTRUCTION PROGRAM BY FACULTY WINTER 1973

John T. Pohlmann

Technical Report 5.1-73

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TM 005 260

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AN EVALUATION OF THE EVALUATION OF INSTRUCTION PROGRAM BY FACULTY, WINTER 1973

John T. Pohlmann
Southern Illinois University at Carbondale

The effectiveness of any service such as the Evaluation of Instruction program depends upon its responsiveness to the needs of its users. In order for a service to be responsive to user needs, channels of communication must be opened between program personnel and program users. To this end, a questionnaire was distributed to faculty members who particpated in the Evaluation of Instruction program during Winter Quarter, 1973. The purpose of the questionnaire was to allow faculty users to evaluate various aspects of the service, and provide suggestions for the improvement of the service. This report outlines the results obtained from that questionnaire:

The items included in the questionnaire were directed at obtaining answers to the following questions:

1. What percentage of users report satisfaction with the service they received?
2. Was the computer printout understandable?
3. Were the deciles helpful for interpreting the results of the evaluation?
4. Did faculty members using the MIRROR evaluation form find the comments of their students helpful?
5. Which type of information, the written comments of students solicited on the MIRROR questionnaire or the computerized results of student responses to the Instructional Improvement Questionnaire, was more informative?
6. What could be done to improve the evaluation service?

A copy of the questionnaire can be found in the Appendix.

Procedures and Results

A questionnaire was mailed to each of the 268 faculty members who participated in the Evaluation of Instruction Program during the Winter Quarter, 1973. One-hundred and nineteen usable questionnaires were returned to the Testing Center. This represents a 44 percent return rate.

The first question asked was "Were you satisfied with the service you received from the Testing Center?" Ninety-five percent of the responding faculty answered "yes" to this question. There were six "no" responses. Two of the negative responses were directed at the questionnaire and the voluntary nature of the service. One respondent felt that the questionnaire is too complicated, and the other respondent felt that a larger number of faculty member's results should be reflected in the norms. The other four respondents who stated that they were not satisfied with the service, did so because of poor service from the Testing Center. Three of these instructors failed to get their results. Upon examining the records from the Winter Quarter evaluation, the source of the problem was found to be errors in coding the faculty members materials when they were brought to the Testing Center. Either the wrong log number was assigned to a batch of materials or the instructor's department was coded incorrectly. One instructor said he was dissatisfiedwith the service because it took two weeks to get his results. This is, in one sense, a compliment since turn around time for the evaluation program last year was approximately five weeks for everybody. This suggests that an appreciable improvement in turn around time has been realized this year.

The second question asked the instructor if the computer printout was understandable. Eighty-nine percent of the respondents said "yes", while eleven percent said "no".

Four of those who responded negatively stated that the deciles were confusing. Three said that "statistical or computer things" always did confuse them. One person said he had trouble with the reversed or negatively phrased items, and one person said that the Analysis by Subscores section of the printout was not understandable.

The next question was directed specifically at the interpretability of the deciles. Seventy-five percent of the respondents said that the deciles were helpful in interpreting the results of the evaluations.

The reasons given for saying the decile did not aid in the interpretation of the results were (1) they were too difficult to understand, (2) they might be abused by administrators, (3) the deciles are too precise, given the unreliable nature of the data, and (4) it was difficult to see how an item mean above 4.0 on a five point scale could result in a decile value of 2.

The next question asked if the MIRROR evaluation forms were helpful. A large majority of the respondents (96%) said "yes". Only one person elaborated upon his "no" response. He felt that the students were not sincere when they completed their forms. As an aside, 67 or 56% of the questionnaires had responses to this question, consequently this figure (56%) offers an approximation to the percentage of our users who apt to participate in the MIRROR evaluation.

The next question asked the respondent if the MIRROR forms were more informative than the computer printout. The response options were "yes", "no", and "both were equally informative. The favorable response given to the MIRROR forms suggest that they should continue to be offered to consenting faculty members.

The final question was a global one which asked the faculty member if there was anything that could be done to improve the evaluation service. The recommendations offered in the order of their frequency were:

(1) Develop campus norms based upon all instructors rather than voluntary participants. (Frequency = 11)

(2) Change certain items on the questionnaire. The items mentioned most often were the negatively phrased items in the course evaluation section. (Frequency = 10)

(3) Provide college-wide norms instead of university-wide norms (Frequency =2)

(4) Provide a workshop for faculty on the use and interpretation of the IIQ. (Frequency = 2)

On the basis of these results it appears that some action should be taken to (1) help faculty interpret the deciles, (2) provide college and/or departmental norms, (3) continue providing open-ended student feedback to faculty, (4) inform faculty of the availability of the optional item section on the IIQ, (5) provide some service such as workshops or feedback sessions with instructors concerning the results of their evaluations and finally (6) encourage administrators to require full participation by faculty for the purpose of establishing truly representative norms for the IIQ.

APPENDIX

Sample Questionnaire Mailed
to Faculty

1. Name: _____

2. Department: _____

3. Were you satisfied with the service you received from the Testing Center?

Yes ☐ No ☐

If you were not satisfied with our service, please state why.

_____

_____

_____

4. Was the computer printout understandable? Yes ☐ No ☐

If the printout wasn't understandable, please state which part(s) was (were) not clear to you and why.

_____

_____

5. Did the deciles help you to interpret your results? Yes ☐ No ☐

If you didn't find the deciles helpful, please state why.

_____

_____

_____

6. If you used the Mirror evaluation forms (the open-ended or essay type form), did you find the comments of your students helpful?

Yes ☐ No ☐

7. Were the Mirror forms more informative than the computer printout?

☐ Yes ☐ No ☐ Both types of information were equally informative

8. What could be done to improve the evaluation service?

_____

_____

_____

_____

_____

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Student Affairs Research and Evaluation Center

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A CROSSVALIDATION OF THE IIQ DECILES FROM 1971 TO FALL 1972

Mark VanTuinen
John Pohlmann

Technical Report 4.1-73

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A CROSSVALIDATION OF THE IIQ DECILES FROM 1971 TO FALL 1972

Mark VanTuinen and John Pohlmann
Southern Illinois University at Carbondale

The general purpose of this study was to assess the appropriateness of the Instructional Improvement Questionnaire norms from 1971 for the evaluations from Fall of 1972. To that end the item means for the first forty items of the IIQ were calculated for each of the participating instructors. This included about 900 instructors and 1454 sections for Winter, Spring, Summer, and Fall of 1971, and about 282 instructors and 446 sections for Fall of 1972.

Upon rank ordering the item means, and assuming that the 1971 item means were distributed normally within each item, nine decile values (1st, 2nd . . . 9th) for each item were obtained. This was done by converting each item mean to a Z score using the normative item mean, and standard deviation of item means. An item mean was placed in the 1st decile if its Z equivalent was less than -1.28, which is the 1st decile value for the Z distribution. The item means for the Fall, 1972 data were also ranked, but in this case the nine decile values for each item were empirically determined. That is, an item mean was placed in the 1st decile if it fell in the lowest 10% of item means. There was no conversion to Z scores, and hence no assumption of normality with this procedure. Table 1 contains the decile cutoff points for each item for both the 1971 and Fall 1972 data. As can be seen in Table 1, there was close correspondence between the two procedures for generating deciles. The mean absolute difference between decile values for all forty items using the two systems was .06. The deviations were

most severe for items 29, 33, 18, and 21.

The forty item means for each of the 1972 instructors were then compared to the 1971 and 1972 decile values. Thus, the mean score on item one for professor "A" would be located in the appropriate decile on both the 1971 and 1972 item-one distributions. In this manner the percentage of 1972 item means falling in the same decile in both the 1971 and 1972 distributions could be determined. The percentage of item means located in either identical or adjacent (e.g., located in the 4th decile on item one for the 1971 distributions, and the 3rd or 5th decile on item one for the 1972 distribution) was also calculated. These percentages provided a measure of the accuracy of the 1971 norms for the 1972 data. The results of this analysis appears in Table 2.

The results indicated that the item means for the two years are quite similarly distributed. The percentages for the item means falling in identical deciles in the two distributions ranged from 25.11% to 82.29%. On all but five of the items, the percentage of means located in either identical or adjacent deciles was 100. The two items for which this percentage was lowest were items 29(78.25%) and 33(78.03%). A comparison of the 1972 means and decile values with the 1971 means and decile values for these two items indicated that the discrepancy was due to a downward shift in the 1972 distribution (that is, the evaluations tended to be lower for these items in 1972), rather than a change in the shape of the distribution.

In conclusion, this study indicated that the 1971 norms are generally appropriate for the 1972 evaluation results. It is, however, recommended that the norms for items 29 and 33 be updated to reflect the change in the rating distribution. These results also suggest that the assumption of normality,

made in the calculation of decile cut off values, is reasonable and tenable. This assumption will therefore continue to be used in the derivation of decile values.

TABLE 1. Decile values for the 1971 data appear as the first row for each item. Decile values for the Fall 1972 data are in the second row of each item.

												Average absolute differences between 1971 and 1972 deciles for each item.
1	0.0	3.39	3.61	3.77	3.90	4.03	4.15	4.29	4.45	4.67	5.00	
	0.0	3.39	3.72	3.93	4.04	4.16	4.26	4.36	4.50	4.68	5.00	.09
2	0.0	3.13	3.36	3.53	3.68	3.81	3.94	4.09	4.26	4.49	5.00	
	0.0	3.13	3.41	3.61	3.76	3.89	4.04	4.16	4.27	4.43	5.00	.06
3	0.0	2.76	3.03	3.22	3.38	3.53	3.68	3.84	4.03	4.30	5.00	
	0.0	2.75	3.00	3.21	3.42	3.55	3.69	3.91	4.13	4.36	5.00	.04
4	0.0	3.05	3.29	3.46	3.61	3.75	3.89	4.04	4.21	4.45	5.00	
	0.0	3.08	3.33	3.55	3.73	3.87	4.00	4.10	4.26	4.43	5.00	.06
5	0.0	2.70	2.96	3.15	3.31	3.46	3.61	3.77	3.96	4.22	5.00	
	0.0	2.64	2.93	3.19	3.37	3.53	3.64	3.81	3.93	4.15	5.00	.05
6	0.0	3.16	3.41	3.59	3.74	3.88	4.02	4.17	4.35	4.60	5.00	
	0.0	3.12	3.47	3.67	3.79	3.96	4.10	4.23	4.33	4.52	5.00	.06
7	0.0	3.20	3.43	3.60	3.75	3.88	4.01	4.16	4.33	4.56	5.00	
	0.0	3.13	3.45	3.67	3.83	3.97	4.12	4.21	4.33	4.52	5.00	.06
8	0.0	3.75	3.94	4.08	4.20	4.31	4.42	4.54	4.68	4.87	5.00	
	0.0	3.79	4.03	4.17	4.31	4.40	4.53	4.61	4.73	4.82	5.00	.08
9	0.0	3.23	3.45	3.61	3.74	3.87	3.99	4.13	4.29	4.51	5.00	
	0.0	3.29	3.55	3.70	3.83	3.97	4.09	4.20	4.30	4.48	5.00	.07
10	0.0	2.99	3.23	3.40	3.55	3.69	3.83	3.98	4.15	4.39	5.00	
	0.0	3.07	3.32	3.49	3.62	3.74	3.87	3.99	4.14	4.30	5.00	.06
11	0.0	2.89	3.16	3.35	3.52	3.67	3.82	3.99	4.18	4.45	5.00	
	0.0	2.86	3.17	3.37	3.55	3.73	3.92	4.07	4.24	4.44	5.00	.04

TABLE 1. Decile values for the 1971 data appear as the first row for each item. Decile values for the Fall 1972 data are in the second row of each item.

											Average absolute differences between 1971 and 1972 deciles for each item.
12	0.0	3.92	4.10	4.23	4.34	4.44	4.54	4.65	4.78	4.96	5.00	
	0.0	4.03	4.22	4.33	4.43	4.50	4.59	4.66	4.75	4.85	5.00	.07
13	0.0	3.11	3.33	3.49	3.63	3.75	3.88	4.01	4.17	4.39	5.00	
	0.0	3.10	3.38	3.56	3.69	3.83	3.97	4.12	4.25	4.44	5.00	.07
14	0.0	3.10	3.31	3.46	3.59	3.71	3.83	3.96	4.11	4.32	5.00	
	0.0	3.02	3.31	3.50	3.64	3.78	3.91	4.04	4.20	4.38	5.00	.06
15	0.0	2.99	3.29	3.50	3.68	3.85	4.02	4.20	4.41	4.71	5.00	
	0.0	3.04	3.33	3.54	3.76	3.98	4.14	4.32	4.46	4.64	5.00	.08
16	0.0	3.32	3.55	3.72	3.87	4.00	4.13	4.28	4.45	4.68	5.00	
	0.0	3.32	3.53	3.76	3.97	4.07	4.20	4.33	4.48	4.69	5.00	.04
17	0.0	3.95	4.12	4.25	4.35	4.45	4.55	4.65	4.78	4.95	5.00	
	0.0	3.88	4.17	4.32	4.42	4.53	4.63	4.69	4.79	4.87	5.00	.06
18	0.0	3.24	3.45	3.60	3.73	3.85	3.97	4.10	4.25	4.46	5.00	
	0.0	3.42	3.58	3.75	3.88	3.96	4.12	4.23	4.35	4.48	5.00	.12
19	0.0	3.13	3.37	3.54	3.69	3.83	3.97	4.12	4.29	4.53	5.00	
	0.0	3.04	3.33	3.53	3.69	3.90	4.07	4.25	4.37	4.60	5.00	.06
20	0.0	3.10	3.37	3.56	3.72	3.87	4.02	4.18	4.37	4.64	5.00	
	0.0	3.09	3.38	3.67	3.88	4.00	4.20	4.30	4.46	4.58	5.00	.10
21	0.0	3.16	3.39	3.56	3.71	3.84	3.97	4.12	4.29	4.52	5.00	
	0.0	3.19	3.51	3.70	3.84	4.00	4.11	4.25	4.39	4.55	5.00	.11
22	0.0	3.18	3.39	3.54	3.67	3.79	3.91	4.04	4.19	4.40	5.00	
	0.0	3.18	3.47	3.65	3.76	3.90	4.02	4.12	4.27	4.44	5.00	.09

TABLE 1. Decile values for the 1971 data appear as the first row for each item. Decile values for the Fall 1972 data are in the second row of each item.

											Average absolute differences between 1971 and 1972 deciles for each item.
23	0.0	3.12	3.35	3.52	3.66	3.79	3.92	4.06	4.23	4.46	5.00	.08
	0.0	3.14	3.44	3.64	3.77	3.91	4.03	4.13	4.28	4.43	5.00	
24	0.0	2.69	2.93	3.10	3.25	3.39	3.53	3.68	3.85	4.09	5.00	.09
	0.0	2.67	3.00	3.21	3.37	3.52	3.64	3.78	3.95	4.14	5.00	
25	0.0	3.09	3.30	3.45	3.58	3.70	3.82	3.95	4.10	4.31	5.00	.08
	0.0	3.20	3.45	3.54	3.62	3.72	3.81	3.90	4.01	4.17	5.00	
26	0.0	2.82	2.99	3.11	3.21	3.31	3.40	3.51	3.63	3.80	5.00	.07
	0.0	2.99	3.11	3.22	3.37	3.37	3.34	3.40	3.49	3.62	5.00	
27	0.0	2.83	3.10	3.29	3.45	3.60	3.75	3.91	4.10	4.37	5.00	.06
	0.0	2.80	3.10	3.33	3.50	3.67	3.85	4.03	4.24	4.35	5.00	
28	0.0	3.10	3.32	3.48	3.61	3.73	3.85	3.98	4.14	4.36	5.00	.05
	0.0	3.08	3.33	3.54	3.67	3.77	3.86	3.95	4.05	4.20	5.00	
29	0.0	2.46	2.76	2.98	3.16	3.33	3.50	3.68	3.90	4.20	5.00	.27
	0.0	2.14	2.42	2.67	2.90	3.05	3.22	3.44	3.67	3.95	5.00	
30	0.0	2.98	3.23	3.41	3.56	3.70	3.84	3.99	4.17	4.42	5.00	.09
	0.0	3.03	3.33	3.52	3.66	3.78	3.88	3.96	4.09	4.24	5.00	
31	0.0	3.26	3.49	3.66	3.80	3.93	4.06	4.20	4.37	4 60	5.00	.08
	0.0	3.20	3.56	3.76	3.91	4.04	4.17	4.27	4.43	4.58	5.00	
32	0.0	2.33	2.60	2.80	2.96	3.12	3.27	3.44	3.64	3.91	5.00	.07
	0.0	2.21	2.66	2.83	3.00	3.18	3.39	3.52	3.71	3.93	5.00	

TABLE 1. Decile values for the 1971 data appear as the first row for each item. Decile values for the Fall 1972 data are in the second row of each item.

											Average absolute differences between 1971 and 1972 deciles for each item.
33	0.0	2.50	2.72	2.88	3.01	3.14	3.26	3.40	3.56	3.78	5.00	
	0.0	2.53	2.72	2.82	2.91	3.00	3.09	3.21	3.34	3.52	5.00	.13
34	0.0	2.57	2.82	3.00	3.15	3.29	3.43	3.58	3.76	4.01	5.00	
	0.0	2.54	2.86	3.06	3.26	3.39	3.55	3.65	3.81	3.99	5.00	.07
35	0.0	3.10	3.31	3.46	3.58	3.70	3.82	3.94	4.09	4.30	5.00	
	0.0	3.11	3.28	3.43	3.60	3.72	3.83	3.88	3.03	4.25	5.00	.03
36	0.0	3.07	3.27	3.42	3.54	3.66	3.77	3.90	4.05	4.25	5.00	
	0.0	3.22	3.38	3.52	3.64	3.76	3.84	3.94	4.05	4.21	5.00	.08
37	0.0	3.61	3.80	3.94	4.05	4.16	4.27	4.38	4.52	4.71	5.00	
	0.0	3.63	3.83	4.02	4.09	4.21	4.32	4.43	4.50	4.69	5.00	.04
38	0.0	2.66	2.90	3.07	3.21	3.35	3.48	3.63	3.80	4.04	5.00	
	0.0	2.47	2.84	3.05	3.25	3.39	3.50	3.65	3.82	3.99	5.00	.05
39	0.0	2.45	2.73	2.94	3.12	3.28	2.44	3.62	3.83	4.11	5.00	
	0.0	2.39	2.66	2.93	3.18	3.41	3.54	3.68	3.85	4.04	5.00	.06
40	0.0	3.22	3.45	3.62	3.77	3.90	4.03	4.18	4.35	4.58	5.00	
	0.0	3.22	3.47	3.73	3.92	4.00	4.13	4.27	4.42	4.58	5.00	.07

TABLE 2

Percentage of item means from the Fall 1972 sample falling in identical or within adjacent deciles using both systems for generating Deciles.

	PERCENT OF IDENTICAL CATEGORIZATION	PERCENT OF CATEGORIZATION CORRECT WITHIN +-1
ITEM 1	49.55	94.62
ITEM 2	66.37	100.00
ITEM 3	76.91	100.00
ITEM 4	70.18	100.00
ITEM 5	82.74	100.00
ITEM 6	76.91	100.00
ITEM 7	60.09	100.00
ITEM 8	39.91	100.00
ITEM 9	66.37	100.00
ITEM 10	65.02	100.00
ITEM 11	75.34	100.00
ITEM 12	57.85	100.00
ITEM 13	58.30	100.00
ITEM 14	76.23	100.00
ITEM 15	58.97	100.00
ITEM 16	79.82	100.00
ITEM 17	52.02	100.00
ITEM 18	25.11	94.17
ITEM 19	78.25	100.00
ITEM 20	57.62	100.00
ITEM 21	39.24	100.00
ITEM 22	45.07	100.00
ITEM 23	50.00	100.00
ITEM 24	46.86	100.00
ITEM 25	39.91	100.00
ITEM 26	39.24	100.00
ITEM 27	63.45	100.00
ITEM 28	78.92	100.00
ITEM 29	17.26	78.25
ITEM 30	55.38	100.00
ITEM 31	45.29	100.00
ITEM 32	73.77	100.00
ITEM 33	44.39	78.03
ITEM 34	52.91	100.00
ITEM 35	63.23	91.26
ITEM 36	43.50	100.00
ITEM 37	39.46	100.00
ITEM 38	82.29	100.00
ITEM 39	70.40	88.79
ITEM 40	58.97	93.05

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TESTING CENTER

SOUTHERN ILLINOIS UNIVERSITY AT CARBONDALE

TM005 263

NORMS FOR REQUIRED AND ELECTIVE COURSES BY COURSE LEVEL FOR THE IIQ SUBSCALES

John Pohlmann
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Testing Center

Technical Report 11.1-71

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TM 005 263

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NORMS FOR REQUIRED AND ELECTIVE COURSES BY COURSE LEVEL FOR THE IIQ SUBSCALES

John T. Pohlmann
Mark Van Tuinen
Testing Center

The purpose of this study was to develop norms for five subscales from the Instructional Improvement Questionnaire (IIQ) for required and elective courses at each course level. The subscales of the IIQ were derived from the results of an earlier factor analysis of items in parts I and II of the IIQ. The five factors identified in that study were labled 1. General Course Rating, 2. Student Orientation, 3. Course difficulty, 4. Grading and assignments, and 5. Presentation of material. For the purposes of this study items that loaded high on each factor were combined to form subscales. Scores on these subscales were derived by computing the average item score for the items in the subscale. Consequently five subscores were generated for each student evaluation, one for each subscale. In Table 1 the IIQ items that were included in each subscale are listed.(The items in Parts I and II of the IIQ appear in the Appendix).

TABLE 1

THE IIQ ITEMS THAT WERE INCLUDED IN

THE FIVE SUBSCALES

SUBSCALE NAME	ITEM NUMBERS OF ITEMS INCLUDED
General Course Rating	21,22,23,27,29,31,37,40
Student Orientation	10,16,18,19
Course Difficulty	25,36,38,39
Assignments and Grading	2,3,4,13,14
Presentation of Material	1,5,6,7,9,20

The data used in this study were taken from a master research tape which contains the responses of 33,531 students to the IIQ. The data on the master tape span the period from Winter 1971 to, and including Fall. For the purposes of this study, every other record on the tape was sampled. Each sampled record was checked for missing data, and if missing data were found, that record was deleted. This process resulted in 11,639 cases suitable for statistical analysis.

Statistical Analyses

The initial phase of the statistical analysis consisted of identifying subjects that fell into various categories according to course level, and required versus elective courses. There were five possible course levels (100,200, etc.), and at each course level students were identified who were either required to take the course or took it as an elective. Students were identified

as taking the course either as a requirement or as an elective on the basis of their responses to question 66 from the IIQ (Why did you take this course?). If a student responded by saying that he was taking the course as 1. a personal choice, or 2. an elective for a major or minor, he was categorized as taking the course as an elective. If the student responded to question 66 by stating his reason for taking the course was to 1. fulfill General Studies Requirements, 2. fulfill requirements for major or minor, or 3. satisfy admission deficiencies, he was categorized at being required to take the course. Hence, ten categories were identified in a 2 X 5 (required versus elective) contingency table. Table 2 presents the number of observations included in each category.

The second phase of the analysis consisted of computing the mean rating on each of the five subscores, for each of the ten categories.

TABLE 2

FREQUENCY OF STUDENTS IN EACH

OF THE CATEGORIES USED IN THE STUDY

	COURSE LEVEL				
	100	200	300	400	500
Required	2202	1926	3363	763	217
Elective	398	360	1378	887	145

Results

The following tables present the average scores for the five subscales for each category.

TABLE 3

GENERAL COURSE RATING

COURSE LEVEL

	100	200	300	400	500
Required	3.6	3.7	3.7	3.8	3.9
Elective	4.0	3.8	3.9	4.0	4.3

TABLE 4

STUDENT ORIENTATION

COURSE LEVEL

	100	200	300	400	500
Required	3.8	3.8	3.8	3.9	4.1
Elective	3.9	3.7	3.9	4.0	4.2

TABLE 5

COURSE DIFFICULTY

COURSE LEVEL

	100	200	300	400	500
Required	3.4	3.4	3.5	3.5	3.4
Elective	3.5	3.6	3.6	3.7	3.7

TABLE 6

ASSIGNMENTS AND GRADING

COURSE LEVEL

	100	200	300	400	500
Required	3.7	3.7	3.6	3.7	3.7
Elective	4.0	3.8	3.8	3.9	4.2

TABLE 7

PRESENTATION OF MATERIAL

COURSE LEVEL

	100	200	300	400	500
Required	3.8	3.8	3.8	3.8	4.0
Elective	4.0	3.8	3.8	3.9	4.2

APPENDIX A

Parts I and II of the IIQ

PART I: INSTRUCTOR EVALUATION: ITEMS 1 THROUGH 20

DIRECTIONS: The following twenty phrases relate to college-level teaching. Evaluate how your instructor did in each of these aspects of teaching by selecting the *one* response option (*A* through *E* below) that comes closest to your judgment.

RESPONSE OPTIONS: *OMIT ITEMS THAT DO NOT APPLY*

A. *Exceptional* or outstanding performance
B. *Very good* performance
C. *Good* performance, all that I would normally expect in college-level teaching
D. *Weak* performance, instructor should be aware of some opportunity for improvement
E. *Improvement definitely needed*

---

1. Prepared for class
2. Made clear assignments
3. Set clear standards for grading
4. Graded fairly
5. Knew if students understood him
6. Spoke understandably
7. Answered impromptu questions satisfactorily
8. Showed an interest in the course
9. Gave several examples to explain complex ideas
10. Accepted criticism and suggestions
11. Increased your appreciation for the subject
12. Was dependable in holding class as scheduled
13. Specified objectives of the course
14. Achieved the specified objectives of the course
15. Promptly returned homework and tests
16. Showed an interest in students
17. Made assignments that helped you understand the course
18. Was available outside of class
19. Encouraged participation of students
20. In general, taught the class effectively

PART II: EVALUATION OF COURSE: ITEMS 21 THROUGH 40

DIRECTIONS: In the following twenty statements, indicate your feeling about this course by selecting *one* of the response options (*A* through *E* below).

RESPONSE OPTIONS: *OMIT ITEMS THAT DO NOT APPLY*

A. I *STRONGLY AGREE* with this statement.
B. I *AGREE* with this statement.
C. I can *NEITHER* agree nor disagree with this statement.
D. I *DISAGREE* with this statement.
E. I *STRONGLY DISAGREE* with this statement.

Some questions below are worded in the opposite direction—*Read Each Item Carefully.*

Start With Item Number 21 on the Answer Sheet

21. This course was a good learning experience for me.
22. The content of this course was good.
23. The course was well organized.
24. I had trouble paying attention in class.
25. There should be additional prerequisites for this course.
26. There should be fewer prerequisites for this course.
27. This course was very interesting.
28. The amount of required work was appropriate.
29. This was one of the better courses I have taken.
30. The tests covered the course material well.
31. This course was a waste of time.
32. The textbook was good.
33. This course could have used audio-visuals more effectively.
34. This course should be taught in some other way.
35. I covered much of this material in other courses.
36. The course material was too difficult.
37. This course should continue to be offered.
38. The reading assignments were hard to understand.
39. I was often confused.
40. Generally, the course was good.

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Student Affairs Research and Evaluation Center

Southern Illinois
University at Carbondale

SIU

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FACTOR ANALYSES OF PARTS I AND II OF THE IIQ

John T. Pohlmann
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Technical Report 6.1-72

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FACTOR ANALYSES OF PARTS I AND II OF THE IIQ

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Data Source

The data for this study came from a master research file which contains the records of all student evaluations using the IIQ from the Winter Quarter 1971 to the Fall Quarter 1971. A total of 33,531 records are contained on the master file. For the purposes of this study every tenth record was read and checked for missing data. If a record with missing data was encountered, the record was deleted from the study. This process resulted in 2,535 and 2,447 cases for the factor analysis of Parts I and II of the IIQ, respectively.

Factor Analyses

A correlation matrix for each of Parts I and II was calculated. Squared multiple correlations (SMC) for each item, using the other items as predictors, was placed in the main diagonal of the correlation matrix. The resulting matrix of item intercorrelations and SMC's was then factor analyzed using principle axis analysis. Tables 1 and 2 present the results of the principle axis analyses for Parts I and II respectively for all factors with Eigenvalues greater than 1.0.

TABLE 1

RESULTS OF THE PRINCIPLE AXIS ANALYSIS OF PART I OF THE IIQ

ITEM	FACTOR I	II	III	Communality
1. Prepared for class	68*	15	-01	49
2. Made clear assignments	66	40	03	60
3. Set clear standards for grading	63	50	-03	65
4. Graded fairly	70	23	-07	55
5. Knew if students understood him	76	-01	30	67
6. Spoke understandably	71	-10	29	59
7. Answered impromptu questions satisfactorily	75	-12	26	64
8. Showed an interest in the course	70	-24	-09	54
9. Gave several examples to explain complex ideas	72	00	18	59
10. Accepted criticism and suggestions	74	-13	08	56
11. Increased your appreciation for the subject	76	-11	19	62
12. Was dependable in holding class as scheduled	50	-09	-52	52
13. Specified objectives of the course	72	23	-04	57
14. Achieved the specified objectives of the course	78	19	-02	64
15. Promptly returned homework and tests	54	16	-54	61
16. Showed an interest in students	76	-30	-13	69
17. Made assignments that helped you understand the course	74	05	00	54
18. Was available outside of class	63	-29	-29	57
19. Encouraged participation of students	69	-41	-07	65
20. In general, taught the class effectively	85	-04	12	73
Eigenvalue	9.92	1.06	1.01	
Percent of Total Variance	49.6	5.3	5.0	

* Decimal points have been removed from the factor loadings and communalities.

TABLE 2

RESULTS OF THE PRINCIPLE AXIS ANALYSIS OF PART II OF THE IIQ

ITEM	FACTOR I	II	III	IV	Communality
21. This course was a good learning experience for me.	82*	22	09	12	75
22. The content of this course was good.	80	23	11	02	70
23. The course was well organized.	66	18	04	-17	50
24. I had trouble paying attention in class.	-56	08	26	-21	43
25. There should be additional prerequisites for this course.	-19	60	03	-40	56
26. There should be fewer prerequisites for this course.	-06	-07	63	44	61
27. This course was very interesting.	82	22	08	15	76
28. The amount of required work was appropriate.	55	-07	12	-17	35
29. This was one of the better courses I have taken.	84	18	10	07	75
30. The tests covered the course material well.	53	10	00	-27	37
31. This course was a waste of time.	-78	-03	12	-15	65
32. The textbook was good.	37	06	29	52	49
33. This course could have used audio-visuals more effectively.	-25	18	55	09	41
34. This course should be taught in some other way.	-73	07	25	-02	60
35. I covered much of this material in other courses.	28	-09	57	-07	41
36. The course material was too difficult.	-46	66	-02	04	65
37. This course should continue to be offered.	70	10	06	06	51
38. The reading assignments were hard to understand.	-41	60	-14	33	66
39. I was often confused.	-53	58	-13	12	65
40. Generally, the course was good.	86	19	07	09	78
Eigenvalue	7.38	1.82	1.34	1.03	
Percent of Total Variance	36.9	9.1	6.8	5.2	

* Decimal points have been removed from the factor loadings and the communalities.

Inspection of the principle axis factor loadings indicates that both Parts I and II have a rather strong general factor. The high latent roots associated with the first factor in each solution attest to this fact.

The initial factors were rotated using the Varimax criterion. The rotated factor structures for Parts I and II are presented in Tables 3 and 4, respectively.

Interpretation of Rotated Factors

Part I: Factor I appeared to be measuring the clarity of communication that existed in the course. Items that loaded high on this factor (5, 6, and 7) indicated that high scores on this factor would be obtained by instructors who spoke clearly, answered student questions satisfactorily and knew when their students understood the instructor.

Factor II suggested itself as a class management factor. Items that loaded high on this factor (2, 3, 13, and 14) indicated that an instructor who scored high on this factor would be one who made clear assignments, set clear grading standards, specified and achieved the objectives of the course.

The items that loaded highest on Factor III (12, 15, and 18) indicated that Factor III was a dependability factor. An instructor who scored high on this factor would be characterized as one who was dependable in holding class as scheduled, prompt in returning homework and tests, and was available outside of class time.

Part II: Factor I appeared to be measuring the attitude of the student toward the course in general. Courses receiving high ratings on this factor were perceived as having been a good learning experience,

having good content, and having been one of the better courses to which the students have been exposed.

Factor II had high loadings on items that related to the difficulty of the course (36, 38, and 39). Courses with high scores on this factor were characterized as confusing, having difficult material, and in need of additional prerequisites.

Factor III had high loadings on items (26 and 35) that indicated the course overlapped with other courses the students had taken.

Factor IV remained as a specific factor evaluating the textbook.

TABLE 3

ROTATED FACTOR MATRIX FOR PART I OF THE IIQ

ITEM	FACTOR I	II	III
1. Prepared for class	41*	51	25
2. Made clear assignments	30	70	13
3. Set clear standards for grading	19	77	15
4. Graded fairly	34	58	29
5. Knew if students understood him	70	42	07
6. Spoke understandably	70	32	08
7. Answered impromptu questions satisfactorily	72	32	13
8. Showed an interest in the course	56	20	44
9. Gave several examples to explain complex ideas	60	41	15
10. Accepted criticism and suggestions	62	31	29
11. Increased your appreciation for the subject	62	34	20
12. Was dependable in holding class as scheduled	13	21	68
13. Specified objectives of the course	37	60	27
14. Achieved the specified objectives of the course	45	60	29
15. Promptly returned homework and tests	02	44	64
16. Showed an interest in students	62	18	53
17. Made assignments that helped you understand the course	49	46	30
18. Was available outside of class	43	12	61
19. Encouraged participation of students	65	05	48
20. In general, taught the class effectively	68	45	27

* Decimal points have been omitted from the factor loadings.

TABLE 4

ROTATED FACTOR MATRIX FOR PART II OF THE IIQ

ITEM	FACTOR I	II	III	IV
21. This course was a good learning experience for me.	86*	-09	-03	08
22. The content of this course was good.	81	-08	-02	18
23. The course was well organized.	62	-07	-12	31
24. I had trouble paying attention in class.	-50	24	29	18
25. There should be additional prerequisites for this course.	-06	62	-02	41
26. There should be fewer prerequisites for this course.	09	-11	72	-25
27. This course was very interesting.	86	-09	-02	05
28. The amount of required work was appropriate.	44	-26	-03	29
29. This was one of the better courses I have taken.	84	-13	-03	13
30. The tests covered the course material well.	45	-09	-16	36
31. This course was a waste of time.	-74	23	21	04
32. The textbook was good.	26	-10	07	64
33. This course could have used audio-visuals more effectively.	-09	20	60	04
34. This course should be taught in some other way.	-62	29	36	-03
35. I covered much of this material in other courses.	-25	-05	57	17
36. The course material was too difficult.	-20	78	07	02
37. This course should continue to be offered.	69	-16	-05	09
38. The reading assignments were hard to understand.	-10	72	04	-36
39. I was often confused.	-27	74	02	-19
40. Generally, the course was good.	87	-13	-06	11

* Decimal points have been omitted from factor loadings.

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Student Affairs Research and Evaluation Center

Southern Illinois
University at Carbondale

SIU

TM005 265

EVALUATION OF THE INSTRUCTIONAL IMPROVEMENT QUESTIONNAIRE (IIQ) BY FACULTY - FALL 1971

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Technical Report 2.2-72

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TM 005 265

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EVALUATION OF THE
INSTRUCTIONAL IMPROVEMENT QUESTIONNAIRE (IIQ)
BY FACULTY - FALL 1971

Introduction

During Winter Quarter of 1972, questionnaires were sent to all those faculty who used the Instructional Improvement Questionnaire (IIQ) during Fall Quarter of 1971. The questionnaire was distributed with the results of the IIQ analysis for each instructor. The purpose of the questionnaire was to determine the faculty's response to the IIQ, as well as to seek suggestions as to the improvement of the IIQ. Although a similar study was made previously, it was decided that a more comprehensive analysis was necessary. Of the 427 questionnaires distributed, 102 were returned.

Results

The first two questions were concerned with a description of the course and instructor. Of those faculty responding to the questionnaire (102 total responses):

7% of the respondents were teaching assistants.
16% of the respondents were instructors.
37% of the respondents were assistant professors.
24% of the respondents were associate professors.
16% of the respondents were professors.

In addition, those responding indicated the nature of the classes as follows:

28% lecture.
6% laboratory.
13% combination lecture and laboratory.
33% combination lecture and discussion section.
18% other.

To the question of "helpfulness" of the IIQ:

25% indicated it to be "very helpful."
43% indicated it to be "moderately helpful."
27% indicated it to be "somewhat helpful."
3% indicated it to be "not helpful."
1% indicated it to be a "waste of time."

To the question of the ease of interpretation of the results of the IIQ:

67% indicated the results were "easily understood."
19% indicated the results were "somewhat difficult to understand."
13% indicated the results were "confusing in some parts."
1% indicated the results were "difficult to understand."
0% indicated the results were "incomprehensible."

Of those responding:
91% indicated that they intend to submit a copy of the IIQ results to their department chairman.
8% indicated that they did not intend to submit a copy of their results to their department chairman.
3% omitted the item.

To the question "Do you intend to use the evaluation again?":
92% answered "yes."
7% answered "no."
3% omitted the item.

Of those answering "no" to this item, most were concerned with the "appropriateness" of the IIQ in terms of their own specific classroom situation. However, they indicated that if additional questions or a new form was designed to meet their particular situation, they would then use it.

When asked with whom they intend to compare their results:
40% of the respondents intended to compare their results with departmental norms that were sent to the department chairman.
25% of the respondents intended to compare their results with the course level norms that were sent to the department chairman.
17% of the respondents intended to compare their results with the results of their colleagues for the same or similar course.
46% of the respondents intended to compare their results with their own previous evaluations for the same course.
18% of the respondents did not intend to make comparisons.

When asked to respond to the statement "The results of the IIQ indicated an accurate perception of my teaching in the course.":
13% responded "Yes, definitely."
70% responded "Yes, generally."
15% responded "Yes, to a limited extent."
0% responded "No relationship."

When asked if they would like special rating forms developed:
7% would like a special form developed for laboratory sections.
9% would like a special form developed for discussion sections.
8% would like a special form developed for seminars.
25% would like a special form developed for their specific teaching area.
12% would like a special form developed for other circumstances.

The respondents were asked to rank the parts of the IIQ, from 1 to 5, according to their utility in course evaluation. The following are the resulting mean scores ($\bar{x}$) for each of the five parts:

$\bar{x}$	
1.6	Part I: "Instructor Evaluation"
2.0	Part II: "Evaluation of Course"
2.3	Part III: "Strengths and Weaknesses"
3.3	Part IV: "Research Data"
4.2	Part V: "Optional Items"

Inspection of the mean ranks for each of the IIQ parts suggests that Part I: "Instructor Evaluation" has the most utility to those responding, and Part V: "Optional Items" has the least amount of utility.

To the question "Would you find it more convenient to have IIQ forms available to you in your department throughout the quarter?":

23% responded "yes."
65% responded "no."
12% omitted the item.

To the question "How can the Testing Center improve procedures for receipt and distribution of the IIQ?":

16% suggested maintaining IIQ materials in the department.
16% suggested that the questions be printed on the answer sheet to eliminate the booklet.
44% suggested that space be provided for open-ended comments on the answer sheet.
30% suggested that IIQ returns be returned via campus mail.
12% suggested a central location for returning the results or similar procedures.

Of those who made additional suggestions and/or comments concerning the IIQ, there seemed to be three categories to which all the statements applied. First, the majority of the faculty felt that a shorter questionnaire was needed. Specifically, the faculty believed that the completion of the questionnaire required too much classtime and students (they felt) were easily bored and would begin to make marks on the answer sheet without regard to the questions. Second, many faculty thought that the use of a "general" evaluation across all academic areas was not as informative or as "valid" as a form designed for their specific academic area. Third, a number of the faculty found it hard to evaluate and interpret the results of Part III: "Strengths and Weaknesses." They suggested that the optional items, which would be specific for a course or academic area, might replace Part III.

Summary

The results of the questionnaire indicate that participating faculty members feel that the IIQ is moderately helpful, easily understood, and definitely reflects an accurate perception of their performance in class. Additionally, the vast majority of faculty responding intend to participate in the evaluation program again, as well as send the results of the evaluation to their department chairman. It was also found that faculty intended to compare their results with departmental norms and their own previous results for the same course. The results also indicated Part I: "Instructor Evaluation" of the IIQ to be of the most utility, and Part V: "Optional Items" of the least utility. In terms of improving the evaluation procedures, it was found that faculty did not care to have evaluation materials available in their department, and suggested that open-ended comments might be placed on the answer sheet. Most criticisms were directed to three areas, the length of the questionnaire, the questionnaire's validity in a specific class, and the interpretation of Part III: "Strengths and Weaknesses."

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TESTING CENTER

SOUTHERN ILLINOIS UNIVERSITY AT CARBONDALE

TM005 266

SUMMARY OF RESEARCH ON THE RELATIONSHIP BETWEEN STUDENT CHARACTERISTICS AND STUDENT EVALUATIONS OF INSTRUCTION AT SOUTHERN ILLINOIS UNIVERSITY, CARBONDALE

by

John T. Pohlmann

Technical Report - 1.1-72

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TM 005 266

Summary of Research on the Relationship Between Student Characteristics and Student Evaluations of Instruction at Southern Illinois University, Carbondale

Table of Contents

I. Introduction 1

II. Method 2

III. Results 3

IV. Conclusions and Summary 26

Appendix I -

Part IV of the IIQ

TABLES

Table 1 . . . . . Means, Standard Deviations, Reliability Estimates and Intercorrelations of the Three Scales of Evaluation of Instruction 4

Table 2 . . . . . The Relationship Between Sex of Student and Ratings of Instruction 6

Table 3 . . . . . The Relationship Between Student's Year in School and Student Ratings of Instruction 7

Table 4 . . . . . The Relationship Between Course Level and Student Ratings of Instruction 8

Table 5 . . . . . The Relationship Between Student's Reported Grade Point Average and Ratings of Instruction (Undergraduate Students Only) 10

Table 6 . . . . . The Relationship Between the Grade Expected by the Student and Ratings of Instruction (Undergraduate Students Only) 11

Table 7 . . . . . The Relationship Between the Student's Reported Deserved Grade and Ratings of Instruction 12

Table 8 . . . . . The Relationship Between the Responses of Students to Question 66 from the IIQ to Ratings of Instruction 14

Table 9 . . . . . The Relationship Between Class Attendance on Ratings of Instruction 15

Table 10 . . . . . The Relationship Between Student's Transfer Status and Ratings of Instruction 16

Table 11 . . . . . The Relationship Between Percent of Assigned Readings Completed and Ratings of Instruction 18

Table 12 . . . . . The Relationship Between the Number of Hours Outside of Class Spent Studying, Reading, or Working For Course, and Ratings of Instruction 19

Table 13 . . . . . The Relationship Between the Responses to Item 72 from the IIQ to Ratings of Instruction 20

Table 14 . . . . . The Correlations and Beta Weights Relating Student Responses to Part IV from the IIQ to the Student's Evaluation of the Instructor 23

Table 15 . . . . . The Correlations and Beta Weights Relating the Student's Responses to Part IV from the IIQ to the Student's Evaluation of the Course 24

Table 16 . . . . . The Correlations and Beta Weights Relating Student Responses to Part IV from the IIQ to Student's Rating of Course Difficulty (High Score on Difficulty Scale - Difficult) 25

SUMMARY OF RESEARCH ON THE RELATIONSHIP BETWEEN STUDENT CHARACTERISTICS AND STUDENT EVALUATIONS OF INSTRUCTION AT SOUTHERN ILLINOIS UNIVERSITY, CARBONDALE

Introduction

One problem that typically arises in the interpretation of rating form results is the possibility that they might be influenced by characteristics and biases of the rater rather than those of the object or person rated. In the case of student evaluations of instruction, such factors might include student characteristics such as sex, year in school, level of academic achievement, etc. Since these characteristics are, generally speaking, beyond the control of the instructor, it would be unfair to the instructor if he received a "bad" evaluation because of a unique combination of such characteristics in his students. It would be correspondingly unfair if he received a "good" evaluation due to a unique combination of characteristics in his students that predisposed them to offer an overly positive evaluation. Ideally, instructors and administrators could interpret student evaluations more meaningfully if they could identify and take into consideration those factors that tend to bias student ratings of instructors and courses. It was, therefore, the purpose of this study to determine the nature and degree of relationship that exists between certain student characteristics and student ratings of instruction.

Method

Student Evaluations: The student evaluations that were used as criteria in this study were obtained from the Instructional Improvement Questionnaire (IIQ). The IIQ is a 72-item questionnaire designed to provide evaluative feedback to instructors who elect to use it in the evaluation of their courses. There are five parts to the IIQ. They are:

1. an instructor evaluation section (20 items),
2. a course evaluation section (20 items),
3. a strengths and weaknesses section composed of 20 forced choice items for identifying strong and weak points of the instructor and course,
4. a research data section composed of 12 items that solicit descriptive data from the student, and
5. an optional instructor supplied item section (28 items maximum) that may be used by the instructor to evaluate special aspects of his course.

Previous research on Parts I and II of the IIQ suggested that there are three separate aspects of course evaluation measured by these forty items. A factor analysis of the items in Parts I and II revealed three factors. They were identified as:

1. an instructor evaluation factor,
2. a course evaluation factor, and
3. a course difficulty factor.

For the purpose of this study, the items that loaded highest on each of these three factors were considered as separate scales. The item scores for each student respondent on each of these scales were summed to obtain a total score for each scale. This total score was then rescaled by dividing it by the number of items in the scale. Thus, the rescaled score represents an average item score

for each scale.

The means and standard deviations of the raw and rescaled scores, together with scale intercorrelations and reliability estimates appear in Table 1. In the analyses that follow, the three rescaled scores for each student respondent (Instructor Evaluation, Course Evaluation, and Course Difficulty), were used as criterion variables. Four of the items in Parts I and II did not relate to any of the three evaluation factors, consequently they were not used in this study.

Student Characteristics Data: The data used to determine the student characteristics which were examined in this study were obtained from Part IV of the IIQ (Student description section). A copy of this section of the IIQ appears in Appendix I.

Student Sample: The student sample for this study consists of 811 students who completed the IIQ in the Winter Quarter, 1971. They were selected by sampling approximately every tenth student who participated in the course evaluation program throughout the University during that quarter.

Results

In order to determine if any relationship existed between the student characteristics assessed by Part IV of the IIQ and the three evaluation criteria, a One-way Analysis of Variance was computed for each item on each of the evaluation criteria. The groups in the Analysis of Variance were determined by which response option was selected by the student in each item in Part IV of the IIQ. Tables 2 through 13 present the results of these analyses. Each of these Tables contains the mean rating

TABLE 1

Means, Standard Deviations, Reliability Estimates and Intercorrelations of the Three Scales of Evaluation of Instruction

Scale	Number of Items	Raw Score Mean	Raw Score Standard Deviation	Rescaled* Mean	Rescaled* Standard Deviation	Intercorrelations and Reliability Estimates 1	2	3
1. Instructor Evaluation	20	75.40	14.60	3.77	.73	.94**		
2. Course Evaluation	12	40.80	7.32	3.40	.61	.69	.79	
3. Course Difficulty	4	10.56	3.28	2.64	.82	-.18	-.32	.71

*Rescaled scores were obtained by dividing each subject's raw score by the number of items in the scale.

**Reliability estimates appear in the main diagonal and are Cronbach's Alpha coefficients.

scale value of each of the evaluation scales (Instructor, Course, and Course Difficulty) for each of the response options, the proportion of variance accounted for in each of the criteria, and the Univariate F-test for the Analysis of Variance. It should be mentioned, at this point, that the tests of significance reported in these analyses can be somewhat misleading due to the large number of degrees of freedom in the error term for each test. Therefore, the reader is encouraged to pay close attention to the proportion of criterion variance accounted for by these analyses, since it is unaffected by sample size.

Table 2 depicts the relationship between student sex and ratings of instruction. Only the Course Difficulty Scale was found to be significantly related to the sex of the student. Female students tended to rate courses as being more difficult than their male classmates. Even though a significant relationship existed between student sex and rating of course difficulty, only one percent of the variance in the Course Difficulty criterion was accounted for by knowledge of student sex.

Table 3 shows the relationship between student's year in school and ratings of instruction. Again the only criterion which is appreciably related to student's year in school is the Course Difficulty scale. The data suggests a general negative trend between year in school and Course Difficulty, freshmen rating the courses as most difficult and graduate students rating courses as least difficult.

Table 4 presents the relationship between the level of the course (100, 200, etc.) and ratings of instruction. Course

TABLE 2

The Relationship Between Sex of Student and Ratings of Instruction

Rating Scale	Sex of Student: Male n=585	Sex of Student: Female n=212	Proportion of Variance in Rating Accounted for by Sex	Univariate F test
Instructor Evaluation	3.79	3.76	.001	2.45
Course Evaluation	3.52	3.47	.002	3.57
Course Difficulty High Score = Difficult	2.61	2.70	.010	8.1**

** P < .01

TABLE 3

The Relationship Between Student's Year In School and Student Ratings of Instruction

Rating Scale	Student's Year in School					Proportion of Variance in Ratings Accounted for by Year in School	Univariate F test
	Freshmen n = 114	Sophomores n = 161	Juniors n = 279	Seniors n = 225	Graduates n = 32		
Instructor Evaluation	3.73	3.82	3.76	3.77	3.85	.002	.43
Course Evaluation	3.59	3.60	3.58	3.61	3.76	.003	.74
Course Difficulty High Score = Difficult	3.89	2.67	2.64	2.55	2.33	.023	4.77***

*** $p < .001$

TABLE 4

The Relationship Between Course Level and Student Ratings of Instruction

Rating Scale	Course Level 100 n=193	200 n=180	300 n=329	400 n=92	500 n=13	Proportion of Variance in Rating Accounted for by Course Level	Univariate F test
Instructor Evaluation	3.76	3.69	3.80	3.81	3.74	.006	1.14
Course Evaluation	3.55	3.52	3.65	3.65	3.74	.013	2.65*
Course Difficulty High Score = Difficult	2.91	2.65	2.50	2.53	2.74	.041	8.61***

* $p < .05$
*** $p < .001$

Evaluations tend to improve as the course level increases and ratings of Course Difficulty tend to decrease as course level increases. The higher rating of Course Difficulty for graduate students is probably due to sampling variability since only thirteen students were enrolled in graduate level courses. An independent t test was calculated to test this hypothesis, and was found to be non-significant ($t=1.12$, $df=12$).

In the analyses where GPA, Expected Grade and Deserved Grade were considered, only undergraduates were used in the analyses, since graduate students did not vary on these dimensions. All graduate students had GPA's above 4.0, expected A's, and felt that they deserved A's. The relationship between reported GPA and student evaluations of instruction is presented in Table 5. No relationships were found between student GPA and any of the evaluation criteria.

In Table 6, the relationship between the grade expected by the student, and ratings of instruction is presented. Expected grade was found to be most strongly related to the rating of Course Difficulty, and accounted for twelve percent of the variation in that rating. As would be expected, the perceived difficulty of the course increases as the expected grade decreases. Ratings of the instructor and course tend to increase as the expected grade increases. Although impressive, this result does not support a causal hypothesis about the effects of expected grade on evaluations. All that can be said, at this point, is that a relationship exists between these two indices.

Table 7 presents the relationship between the grade the student feels he deserves and ratings of instruction. Deserved grade was most strongly related to the rating of course difficulty.

TABLE 5

The Relationship Between Student's Reported Grade Point Average and Ratings of Instruction (Undergraduate Students Only)

Rating Scale	Reported GPA 4.0+ n=147	3.5 to 3.9 n=244	3.0 to 3.4 n=323	2.0 to 2.9 n=62	2.0- n=3	Percent of Variance in Rating Accounted for by GPA	Univariate F-test
Instructor Evaluation	3.76	3.74	3.79	3.74	3.74	.001	.29
Course Evaluation	3.36	3.34	3.43	3.36	3.36	.005	.88
Course Difficulty High Score = Difficult	2.63	2.63	2.68	2.68	2.50	.001	.19

TABLE 6

The Relationship Between the Grade Expected by the Student and Ratings of Instruction (Undergraduate Students Only)

Rating Scale	Grade Expected A n=167	B n=354	C n=207	D n=43	E n=8	Proportion of Variance in Rating Accounted for by Expected Grade	Univariate F-test
Instructor Evaluation	3.96	3.83	3.59	3.41	3.41	.048	9.70***
Course Evaluation	3.55	3.46	3.23	3.01	2.96	.066	13.62***
Course Difficulty	2.46	2.47	2.95	3.41	3.21	.123	27.11***

*** $p < .001$

TABLE 7

The Relationship Between the Student's Reported Deserved Grade and Ratings of Instruction

Rating Scale	Grade Deserved A n=230	B n=357	C n=156	D n=30	E n=6	Proportion of Variance in Rating Accounted for by Deserved Grade	Univariate F-test
Instructor Evaluation	3.85	3.79	3.63	3.58	3.58	.015	2.85*
Course Evaluation	3.45	3.45	3.20	3.12	2.86	.040	8.06***
Course Difficulty High Score = Difficult	2.43	2.59	3.00	3.12	2.83	.074	15.36***

* $p < .05$
*** $p < .001$

The Difficulty rating tended to increase as deserved grade decreased. On the other hand, a positive relationship was noted between deserved grade and ratings of the instructor and the course. These results were very similar to those observed for the "Expected Grade" variable because of the high correlation between "Expected Grade" and "Deserved Grade" ($r = .71$).

In Table 8, the relationship between the responses of students to question 66 from the IIQ and ratings of instruction is presented. The purpose of question 66 was to determine why the student was enrolled in the course. Courses that were personal choice electives were given the highest rating and were rated as least difficult. Courses taken to satisfy admissions requirements received the lowest ratings. Courses required for major or minor concentrations, and for General Studies were rated as most difficult.

Table 9 depicts the relationship between reported class attendance and ratings of instruction. There was a positive relationship between attendance and course evaluation. A negative relationship was noted between course difficulty and attendance. The rating of the instructor was found to be independent of reported class attendance.

In Table 10, the relationship between the student's transfer status and ratings of instruction is presented. Only the Course Difficulty scale was found to be related to student transfer status. Transfer students who spent more than two years at another institution rated their courses as least difficult. Students who had done work at the Edwardsville Campus

TABLE 8

The Relationship Between the Responses of Students to Question 66 from the IIQ to Ratings of Instruction

Question 66	Response Options	Rating Scale: Instructor Evaluation	Rating Scale: Course Evaluation	Course Difficulty High Score = Difficult
Why did you take this course?	A. Fulfill General Studies Requirements n = 208	3.73	3.30	2.69
	B. Required for Major or Minor n = 423	3.77	3.39	2.72
	C. Elective for Major or Minor n = 73	2.79	3.47	2.53
	D. Satisfy Admission Deficiencies n = 9	3.43	3.06	2.39
	E. Personal Choice Elective n - 98	3.89	3.53	2.31
	Proportion of Variance in Rating Accounted for by Choice Categories	.007	.017	.028
	Univariate F-test	1.37	3.42**	5.61***

** $p < .01$
*** $p < .001$

TABLE 9

The Relationship Between Class Attendance on Ratings of Instruction

Rating Scale	Frequency of Attendance					Proportion of Variance in Ratings Accounted for by Attendance	Univariate F-Test
	50%- n=14	50 to 80% n=60	80 to 90% n=93	90 to 95% n=174	95%+ n=470		
Instructor Evaluation	3.95	3.61	3.69	3.73	3.82	.008	1.61
Course Evaluation	3.65	3.13	3.32	3.39	3.42	.022	4.43**
Course Difficulty High Score = Difficult	3.19	2.66	2.87	2.65	2.57	.021	4.34**

** $p < .01$

TABLE 10

The Relationship Between Student's Transfer Status and Ratings of Instruction

		Instructor Evaluation	Course Evaluation	Course Difficulty
Transfer Status	A. All college work at S.I.U. Carbondale n = 415	3.78	3.37	2.67
	B. All college work at S.I.U. (all campuses) n = 51	3.66	3.43	2.86
	C. Less than one academic year completed at another college (s) n = 72	3.71	3.28	2.84
	D. From one to two academic years at another college (s) n = 212	3.78	3.43	2.50
	E. More than two academic years at another college (s) n = 57	3.79	3.39	2.42
	Proportion of Variance in Ratings Accounted for by Transfer Status	.002	.004	.025
	Univariate F-test	.44	.79	5.01***

*** $p < .001$

and students who had done less than one year of work at another institution rated their courses as most difficult.

Table 11 presents the relationship between the percent of assigned readings completed by the student and ratings of instruction. This variable had its highest relationship with the Course Difficulty scale. Students who completed 90 percent or more of the readings rated their courses as least difficult. There was also a tendency for students who completed 90 percent or more of the assigned readings to rate their instructors and courses more favorably.

Table 12 presents the relationship between the number of hours outside of class spent studying and ratings of instruction. As the number of hours spent studying increased, the ratings of instructor and course tended to be more favorable. Students who spent less than one or more than eight hours studying tended to rate their courses as being most difficult. Initially these results suggested that a second degree or U-shaped relationship existed between hours studied and rating of course difficulty, but a statistical test comparing the Eta squared value (maximum possible relationship, allowing for curvalinearity) and the squared Pearson r (assuming linearity) proved to be insignificant at even the .05 level ($F = 1.67$; d.f. = 3,809; p greater than .10).

Table 13 depicts the relationship between item 72 from Part IV of the IIQ and ratings of instruction. Item 72 provides us with an index of rating leniency since it requires the student to generate a general rating of instruction and courses at S.I.U. The degree to which this item is related to the ratings of any

TABLE 11

The Relationship between Percent of Assigned Readings Completed and Ratings of Instruction

Rating Scale	Percent of Assigned Readings Completed					Proportion of Variance in Rating Accounted for by Percent of Assigned Readings	Univariate F-test
	25% or less n = 81	25 to 50% n = 72	50 to 80% n = 156	80 to 90% n = 160	90%+ n=342		
Instructor Evaluation	3.80	3.66	3.75	3.63	3.85	.015	3.09*
Course Evaluation	3.32	3.32	3.35	3.28	3.49	.021	4.23**
Course Difficulty	2.75	2.89	2.75	2.71	2.47	.033	6.92***

* $p < .05$
** $p < .01$
*** $p < .001$

TABLE 12

The Relationship Between the Number of Hours Outside of Class Spent Studying, Reading, or Working for Course, and Ratings of Instruction

Rating Scale	Number of Hours Spent Outside of Class for Course					Proportion of Variance in Rating Accounted for by Hours of Outside Work	Univariate F-test
	Less than 1 n = 79	1 to 4 n=369	4 to 8 n=250	8 to 12 n=88	More than 12 n=25		
Instructor Evaluation	3.52	3.78	3.84	3.75	3.84	.013	2.74*
Course Evaluation	3.20	3.38	3.30	3.39	3.48	.015	3.15*
Course Difficulty High Score = Difficult	2.71	2.54	2.65	2.88	2.80	.017	3.59**

* $p < .05$
** $p < .01$

TABLE 13

The Relationship between the Responses
to Item 72 from the IIQ to Ratings of Instruction

Item 72	Response Options	Rating Scale: Instructor Evaluation	Course Evaluation	Course Difficulty
In general, I think instruction and classes at S.I.U. are good.	A. Strongly Agree n = 96	4.14	3.74	2.42
	B. Agree n = 365	3.76	3.38	2.68
	C. Neither agree nor disagree n = 214	3.74	3.41	2.58
	D. Disagree n = 104	3.68	3.20	2.60
	E. Strongly Disagree n = 32	3.53	3.07	2.43
	Proportion of Variance in Rating Accounted for by the Choice of Response Options on Item 72	.043	.064	.018
	Univariate F-test	9.15***	13.89***	3.67**

** $p < .01$
*** $p < .001$

particular instructor suggests the degree to which a positive or negative rating tendency is biasing an individual student's rating of a particular instructor or course. As can be seen in Table 13, item 72 accounted for approximately five percent of the variance in student ratings of instructor and course. Inspection of the mean rating values for each of the response options in item 72 suggested that students who strongly agree with item 72 tended to rate instructors and courses much higher than students who chose the other response options.

Since many of the student characteristics examined in this study were correlated, an item-by-item analysis can be misleading. When certain factors (student characteristics) are correlated, their relationships with other variables (evaluations) can be confounded. Under this condition, a given characteristic might be associated with student ratings simply because it is highly related to another characteristic which is associated with ratings, and not because it makes any unique contribution to that variable. In order to partial out the covariance between characteristics, they were simultaneously included in prediction equations and removed individually to determine the degree to which they were uniquely associated with the various rating criteria. The results of these analyses are presented in Tables 14 through 16. Included in Tables 14 through 16 are the zero order correlation coefficients relating each item from Part IV of the IIQ to the rating criterion, the standardized partial beta weight derived from the multiple regression analysis, and the probability level associated with the F-test for each variable as it was removed

from the regression equation. When the correlation coefficient was computed for a group membership variable (e.g., sex), a point biserial r is presented. Also included in Tables 14 through 16 are the multiple correlations and squared multiple correlations between the weighted composite score for the set of predictors and each of the criteria.

Table 14 presents the results of the multiple regression analysis for student ratings of instructors. Only nine percent of the variance in ratings of instruction is accounted for by the student characteristics studied. Two variables made substantial contributions to the nine percent of accounted for variance. They were the general rating of instruction and courses at S.I.U. and the grade expected by the student. Student GPA was found to act as a suppressor variable in predicting ratings of instruction, that is: it correlated zero with ratings of instruction, but aided in prediction by being correlated with the error variance left by one of the other predictors.

In Table 15, the results of the multiple regression analyses for ratings of the course are presented. Fourteen percent of the variance in student evaluations of the course was accounted for by the student characteristics that were examined. As with the evaluation of instructors, the general rating of instruction at S.I.U., and the expected grade in the course were the best predictors. Student GPA again acted as a suppressor variable in predicting course evaluations. Question 56 ("Why did you take this course?") was also found to be related to course evaluations.

Table 16 shows the results of the multiple regression analysis

TABLE 14

The Correlations and Beta Weights Relating Student Responses to Part IV from the IIQ to the Student's Evaluation of the Instructor

Variable	Correlation with Evaluation of Instructor	Standardized Partial Beta Weight	Probability Level for F-test Upon Removing Variable from Regression Equation
Course Level	.02	.02	NS
Sex (1 if male, 0 if female)	.05 (a)	.01	NS
Student's Year in School	.01	.04	NS
GPA	.00	-.08	*
Expected Grade in Course	.20	.27	***
Reported Deserved Grade	.12	-.09	NS
Why Course Was Taken:			
A. G.S. Requirement	-.03 (a)	.00	Removed Simultaneously:
B. Major or Minor Requirement	-.01 (a)	.00	
C. Elective for Major or Minor	.01 (a)	.00	
D. Satisfy Admission Deficiencies	-.05 (a)	-.04	NS
E. Personal Choice Elective	.06 (a)	.04	
Transfer Status:			
A. All Work at Carbondale	.02 (a)	.00	Removed Simultaneously:
B. All Work at S.I.U. (Both Campuses)	-.04 (a)	-.03	
C. Less than 1 year Elsewhere	-.03 (a)	-.02	NS
D. Less than 2 Years Elsewhere	.01 (a)	-.01	
E. More than 2 Years Elsewhere	.01 (a)	-.01	
Percent of Class Attendance	.06	.04	NS
Percent of Assigned Readings Completed	.05	.01	NS
Hours Outside of Class Spent Studying	.07	.07	NS
Description of Academic Motivation:			
A. Preparing for the Working World	.06 (a)	.00	Removed Simultaneously:
B. Getting a Liberal Education	-.03 (a)	-.04	
C. Undecided about Goals	-.04 (a)	-.04	
D. Not really Committed to College	.00 (a)	.03	NS
E. Not in School for a Degree	-.03 (a)	-.02	
General Rating of Instruction at S.I.U.	.18	.17	***

(a) POINT BISERIAL r

* = p < .05 NS = p > .05

** = p < .01

*** = p < .001

Squared Multiple Correlation Coefficient	.092
Multiple R	.303

TABLE 15

The Correlations and Beta Weights Relating the Student's Responses to Part IV from the IIQ to the Student's Evaluation of the Course

Variable	Correlation with Course Evaluation	Standardized Partial Beta	Probability Level of F-test Upon Removing Variable from Regression Equation
Course Level	.08	.08	NS
Sex (1 if male, 0 if female)	.06 (a)	.03	NS
Student's Year in School	.03	-.06	NS
GPA	-.02	-.12	***
Expected Grade in Course	.24	.27	***
Reported Deserved Grade	.17	-.04	NS
Why Course Was Taken:			
A. G.S. Requirement	-.09 (a)	-.07	Removed
B. Major or Minor Requirement	.01 (a)	-.02	Simultaneously:
C. Elective in Major or Minor	.04 (a)	.00	
D. Satisfy Admission Deficiency	-.06 (a)	-.05	**
E. Personal Choice Elective	.08 (a)	.03	
Percent of Class Attendance	.09	.04	NS
Student's Transfer Status:			
A. All Work at Carbondale Campus	-.01 (a)	-.01	Removed
B. All Work at Both S.I.U. Campuses	.02 (a)	.02	Simultaneously:
C. Less than 1 Year Elsewhere	-.05 (a)	-.04	
D. Less than 2 Years Elsewhere	.03 (a)	.00	NS
E. More than 2 Years Elsewhere	.00 (a)	.02	
Percent of Assigned Readings Completed	.11	.05	NS
Hours Outside of Class Spent Studying	.09	.08	NS
Description of Academic Motivation:			
A. Preparing for the Working World	.04 (a)	.00	Removed
B. Getting a Liberal Education	.01 (a)	.00	Simultaneously:
C. Undecided about Goals	-.02 (a)	.00	
D. Not Really Committed to College	-.08 (a)	-.03	NS
E. Not in School for a Degree	-.01 (a)	.00	
General Rating of Instruction at S.I.U.	.21	.19	***

(a) = point biserial r
NS = not significant
* = $p < .05$
** = $p < .01$
*** = $p < .001$

Squared Multiple Correlation .140

Multiple R .374

TABLE 16

The Correlations and Beta Weights Relating Student Responses to Part IV from the IIQ to Student's Rating of Course Difficulty (High Score on Difficulty Scale = Difficult)

Variable	Correlation with Rating of Course Difficulty	Standardized Partial Beta Weight	Probability Level for F-test Upon Removing Variables from Regression Equation
Course Level	-.17	-.08	NS
Sex (1 if male, 0 if female)	-.05 (a)	-.02	NS
Student's Year in School	-.14	.00	NS
GPA	-.03	.07	*
Expected Grade in Course	-.31	-.25	***
Reported Deserved Grade	-.27	-.03	NS
Why Course Was Taken:			
A. G. S. Requirement	.03 (a)	-.04	Removed
B. Major or Minor Requirement	.10 (a)	.00	Simultaneously:
C. Elective for Major or Minor	-.04 (a)	-.03	
D. Satisfy Admission Deficiencies	-.03 (a)	-.07	*
E. Personal Choice Elective	-.15 (a)	-.10	
Percent of Class Attendance	-.11	-.07	*
Transfer Status:			
A. All Work at Carbondale	.04 (a)	.00	Removed
B. All Work at Both S.I.U. Campuses	.08 (a)	.04	Simultaneously:
C. Less than One Year Elsewhere	.07 (a)	.04	
D. Less than Two Years Elsewhere	-.10 (a)	-.07	*
E. More than Two Years Elsewhere	-.07 (a)	-.04	
Percent of Assigned Readings Completed	-.16	-.14	***
Hours Outside of Class Spent Studying	.08	.12	**
Description of Academic Motivation:			
A. Preparing for Working World	.05 (a)	.06	Removed
B. Getting a Liberal Education	-.10 (a)	-.02	Simultaneously:
C. Undecided about Goals	.04 (a)	.03	
D. Not Really Committed to College	.02 (a)	.00	NS
E. Not Studying for a Degree	-.05 (a)	-.04	
General Rating of Instruction at S.I.U.	-.08	-.09	*

(a) = point biserial r
* = $p < .05$
** = $p < .01$
*** = $p < .001$

Squared Multiple Correlation .186

Multiple R .435

for ratings of course difficulty. Approximately 19 percent of variance in ratings of course difficulty was accounted for by student characteristics indices. The primary contributors to the prediction were "the percent of assigned readings completed" index and the "expected grade" index, both receiving negative weighting coefficients. Other student characteristics that were significantly related to the criterion of Course Difficulty were GPA, percent of class attendance, why the course was taken (G.S. requirement, personal choice elective, etc.), student's transfer status, hours outside of class spent studying, and the general rating of instruction and courses at S.I.U.

Conclusions and Summary

The most interesting aspect of this study was the fact that the majority of the predictors (student characteristics) were found to be independent of student evaluations of instruction. Since only nine percent of the variation in ratings of the instructor was accounted for by the student characteristics examined in this study, 91 percent of the variation is due to other sources. Considering the fact that the Instructor Evaluation Scale is highly reliable ($r_{..}$ = .94), a sizeable portion of "true score" variance is left for further study. This same condition holds for the Course Evaluation Scale. The rating of Course Difficulty was the most predictable scale examined, with nineteen percent of its variation being accounted for by the student characteristics indices. Due to the extremely powerful statistical tests used in the regression analyses, only those characteristics which were significant beyond the

.001 level of confidence were interpreted. In keeping with this restriction, the data suggests that the student characteristic which was most directly related to evaluations of instruction was the grade the student expected to receive in the course. This variable uniquely accounted for three to four percent of the variance in student evaluations. For the Instructor Evaluation and Course Evaluation Scales, the general rating of courses and instruction at S.I.U. was also found to be predictive. The percent of readings completed by the student was similarly found to be predictive of student rating of course difficulty.

APPENDIX I

PART IV OF THE IIQ

APPENDIX I

Part IV of the IIQ

Part IV: Research Data: Items 61 through 72

In order to revise and improve this questionnaire, we need to ask a few questions about you, the respondent. This data will be used to supplement the norms for different course levels and adjust for different student interests and goals.

MARK ONLY ONE LETTERED RESPONSE FOR EACH ITEM. OMIT ONLY THOSE ITEMS THAT ARE CLEARLY INAPPROPRIATE FOR YOU.

Start with Item Number 61 on the Answer Sheet

MARK ONLY ONE LETTER

61. Your sex:
    A. Male
    B. Female

62. Class year:
    A. Freshman
    B. Sophomore
    C. Junior
    D. Senior
    E. Graudate

63. Your SIU Cumulative Grade Point Average:
    A. above 4.0
    B. between 3.5 and 3.9+
    C. between 3.0 and 3.4+
    D. between 2.0 and 2.9+
    E. 2.0 or below

64. What grade do you expect to receive in this course:
    A. A
    B. B
    C. C
    D. D
    E. E

65. What grade do you feel you deserve in this course?
    A. A
    B. B
    C. C
    D. D
    E. E

66. Why did you take this course? (Mark only one)
    A. Fulfill General Studies Requirement
    B. Required for major or minor
    C. Elective for major or minor
    D. Satisfy admissions deficiencies
    E. Personal choice elective

67. How often did you attend class?
    A. Less than 50 percent of the time
    B. From 50 percent ot 80 percent of the time
    C. From 80 percent to 90 percent of the time
    D. From 90 percent to 95 percent of the time
    E. Over 95 percent of the time

68. Describe your transfer status. (Mark only one.)
    A. All college work done at SIU (Carbondale)
    B. All college work done at SIU (all campuses)
    C. Less than one academic year of work completed at another college (s)
    D. From one to two academic years completed at another college (s)
    E. More than two academic years completed at another college (s)

69. What percentage of the assigned readings did you complete?
    A. Less than 25 percent
    B. From 25 to 50 percent
    C. From 50 to 80 percent
    D. From 80 to 90 percent
    E. 90 percent or more

70. On the average, how many outside-of-class hours per week did you spend studying, reading, and working for this course?
    A. Less than 1 hour per week
    B. From 1 to 4 hours per week
    C. From 4 to 8 hours per week
    D. From 8 to 12 hours per week
    E. More than 12 hours per week

71. Which statement describes you best as a student?
    A. Although a liberal education is important, I am most interested in getting a degree to prepare for the working world
    B. I am here primarily to gain a liberal education
    C. I haven't really decided what I want to do in the world yet; I hope college will help me find my place.
    D. I'm not really committed to college, but being here is better than the alternatives.
    E. I am not here to complete a degree.

72. In general, I think instruction and classes at SIU are good.
    A. I strongly agree with this statement.
    B. I agree with this statement.
    C. I neither agree nor disagree with this statement.
    D. I disagree with this statement.
    E. I strongly disagree with this statement.

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Student Affairs Research and Evaluation Center

Southern Illinois
University at Carbondale

SIU

TM005 267

A Description of Effective College Teaching in Five Disciplines as Measured by Student Ratings

TM 005 267

John T. Pohlmann

Southern Illinois University, Carbondale

A Description of Effective College Teaching in Five Disciplines as Measured by Student Ratings

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Student ratings of teachers in five disciplines (science and math, education, social sciences, humanities and business) were analyzed to determine which teacher attributes were important in predicting ratings of teaching effectiveness. Ratings results from 1439 courses taught at Southern Illinois University, Carbondale from 1973 to 1974 were used as data for this study. The results indicated that the instructor attributes rated as characteristic of effective instruction were highly consistent across disciplines, and the effective instructor was described as, 1. Knowing when students understood him, 2. Increasing students appreciation of the subject matter, 3. Answering impromptu questions satisfactorily, 4. Achieving the objectives of the course, and 5. Giving several examples to explain complex topics.

A Description of Effective College Teaching in Five Disciplines as Measured by Student Ratings

John T. Pohlmann

Southern Illinois University, Carbondale

Student ratings are one of the most frequently used means of evaluating college instructors. In many institutions results obtained from student ratings affect decisions regarding pay raises, retention and promotion. If student ratings are to be used for such important decisions, faculty members should be appraised of the teaching characteristics which contribute to favorable student evaluations. Further, if there are discipline differences on what constitutes effective teaching using student ratings, this would have implications for the development of discipline specific rating forms.

The purposes of this study were 1. to describe the differences in teacher attributes in five academic disciplines, 2. to identify the characteristics of teachers which account for variation in a general rating of teaching effectiveness, and 3. to determine if the teacher characteristics that contribute to high student ratings differ among five disciplines (science and mathematics, education, humanities, social sciences, and business).

In their recent review of the literature on student ratings, Costin, Greenough, and Menges (1972) summarized a number of studies which attempted to assess the criteria used by students in their evaluations of faculty. The attributes of teachers which were most commonly mentioned by students as evidence of excellent teaching were preparedness, clarity, and stimula-

tion of students' intellectual curiosity (Costin, et al., 1972, p. 530). Deshpande, Webb and Marks (1970), in a study of student perceptions of engineering instructors, found that the effective engineering instructor received high student ratings on motivation, structure, content mastery and instruction skill. Isaacson, McKeachie, and Milholland (1963) related selected personality characteristics, as assessed by instructor self-reports and peer group nominations, to student ratings of the "overall ability" of teaching fellows in introductory psychology. These authors found that the effective teaching fellow possessed a personality structure which was described as artistic, polished, effectively intelligent and imaginative. More recently, McKeachie, Lin and Mann (1971) reported the results of a number of studies which examined the relationship between teacher warmth and effective teaching, as assessed by student achievement residualized for academic ability. Mixed results were obtained. In some courses, teacher warmth correlated positively with student achievement, while in other courses the relationship was negative. Turner (1970) upon reviewing the mixed results obtained in the McKeachie, et al. (1971) study, and other studies, concluded that contextual variables, course type, student sex, etc., are potent factors in determining which instructor characteristics will prove to be effective.

Another group of studies which attempted to identify the characteristics of the effective teacher used simple student descriptions of the effective teacher. Downie (1952), in a survey of 16,000 college students, found that the attributes of a teacher that were listed as important were: (1) comprehensive knowledge of subject matter, (2) interest in the subject, (3)

being prepared for class, and (4) motivating students to do their best. Crawford and Bradshaw (1968) subjected a number of teacher characteristics to a paired-comparison scaling analysis by various groups (student, administrators, and teachers) and those characteristics which obtained the highest scale values in terms of being essential for "effective University teaching" were: (1) a thorough knowledge of subject matter, (2) giving well-planned and organized lectures, (3) enthusiasm and interest in teaching, and (4) a student orientation and willingness to assist outside of the classroom. Gadzella (1968) asked a group of students to list criteria they would use for selecting the ideal professor. The four most important criteria selected were: (1) knowledge of subject matter, (2) interest in the subject, (3) flexibility, and (4) preparation. Costin (1968) had over 200 students rate the frequency of occurrence of various classroom behaviors exhibited by the "best lecturer" they had ever had. The attributes that received the highest ratings of frequency of occurrence were: (1) acted interested in the material, (2) was well prepared, (3) used relevant examples, (4) followed a logical sequence of thought, and (5) explained clearly.

This series of studies suggested that college students equate effective teaching with three broad clusters of instructor attributes, knowledge of subject matter, organization of that subject matter for a clear and logical presentation, and a demonstration of an interest in the subject matter. These clusters indicate a strong subject matter orientation of students in the selection of effective college instructors.

METHOD

The Rating Form

The rating form used in this study was the Instructional Improvement

Questionnaire (IIQ) (Pohlmann, 1973). The IIQ is a questionnaire designed to collect student evaluations of instructors and courses. Approximately 30,000 student evaluations contributed to the results. The students responded to the IIQ items using a 5-point scale (5=exceptional performance,... 1=improvement definitely needed). For the purposes of this study, only those items relating to instructor performance were analyzed. The IIQ items used in this study are presented in Table 1.

Data

The data for this study consisted of the results obtained on the IIQ for 1,439 courses at Southern Illinois University, Carbondale in 1973 and 1974. These courses came from virtually every department on campus and every course level. The results for each course, and the results used in these analyses, consisted of item means on each of the items. Consequently, only between course rating variation was analyzed.

Each of the 1,439 courses that contributed data for this study were classified into five disciplines, 1. Science and Mathematics, 2. Education, 3. Social Sciences, 4. Humanities, and 5. Business.

The departments that were classified into each of the disciplines and the number of courses for each discipline were as follows:

I. Science and Mathematics (N=349)

Biological Sciences
Botony
Chemistry
Geology
Mathematics
Physics
Zoology
Computer Science

II. Education (N=157)

Elementary Education
Secondary Education
Special Education
Physical Education

Health Education

III. Social Sciences (N=596)

Anthropology
Economics
History
Psychology
Sociology
Political Science

IV. Humanities (N=249)

Dance
Language Arts
Music
Philosophy
Speech
Spanish
French
English

V. Business (N=88)

Accounting
Administration
Business Administration
Finance
Marketing

Statistical Analyses

The statistical analysis was conducted in two phases. The first phase compared the disciplines according to those attributes which received the highest and lowest evaluations. The second phase of the analysis compared the disciplines according to what teacher attributes the students in each discipline felt were important for effective teaching. The following section presents a step by step description of the analyses:

Phase 1

Step 1. The item means on the IIQ for each course were converted to normative T-scores. Each item mean was transformed to a scale where the university-wide normative course mean was 50 and the standard deviation was 10.

Step 2. The T-scores obtained in Step 1 were then averaged for each discipline.

Step 3. The items were then ranked in each discipline to determine the teacher attributes that were rated highest and lowest in each discipline.

Step 4. The five disciplines were then intercorrelated over their item means. The elements in the data matrix were the mean T-scores on each item for each discipline. The rows of the data matrix were the T-score means for each of the 21 IIQ items. The columns of the data matrix were the T-score means on the 21 items for each discipline. This 21x5 (item means by disciplines) matrix was then intercorrelated by columns. The resulting R matrix was then interpreted as a discipline similarity matrix based on the discipline profiles across rating items.

Phase 2

Step 1. The item means on items 1-20 were correlated with item 21, the general rating item. If an item correlated highly with item 21, it was assumed that the teacher attribute assessed by that item was a good discriminating attribute to distinguish between effective and ineffective teaching from the students' perspective.

Step 2. The items from the IIQ were ranked according to their correlation with the general rating item (item 21) in order to describe the important and unimportant teacher attributes for each discipline.

Step 3. The disciplines were then correlated over the item correlations with item 21. The elements of the data matrix were the correlations between item means on items 1-20 of the IIQ and item 21. The rows of the data matrix were the items 1-20, and the columns of the data matrix were the 5 disciplines. This 20x5 data matrix was then processed to obtain a 5x5 R matrix of discipline similarity coefficients based on student perceptions of what constituted effective instruction.

RESULTS

The standardized rating scores on each of the IIQ rating items, for each discipline, are presented in Table 1. Humanities courses received the highest ratings, followed in order by Education, Social Sciences, Business and Science and Mathematics.

Within each discipline, instructors tended to generate different rating profiles. Science and mathematics instructors received their

highest ratings on 1. promptly returning homework and tests, 2. being dependable in holding class as scheduled, and 3. making clear assignments. Science and mathematics instructors received their lowest ratings on 1. encouraging student participation, 2. speaking understandably, and 3. knowing if students understood them. Education instructors received their highest ratings on 1. specifying the objectives of the course, 2. encouraging student participation, and 3. achieving the objectives of the course. Education instructors received their lowest ratings on 1. making clear assignments, 2. grading fairly, and 3. being prepared for class. Social Science courses received their highest ratings on 1. giving several examples to explain complex topics, 2. being prepared for class, and 3. showing an interest in the course. Social Science courses received their lowest ratings on 1. specifying the objectives of the course, 2. achieving the objectives of the course, and 3. showing an interest in students. Humanities instructors received their highest ratings on 1. answering impromptu questions satisfactorily, 2. being prepared for class, 3. making clear assignments and 4. encouraging student participation. Humanities instructors received their lowest ratings on 1. specifying objectives of the course, 2. promptly returning homework and tests, and 3. being available outside of class. Business isntructors received their highest ratings on 1. making clear assignments, 2. being dependable in holding class as scheduled, 3. speaking understandably, and 4. promptly returning homework and tests. Business instructors received their lowest ratings on 1. showing an interest in students, 2. achieving the objectives of the course, and 3. increasing students' appreciation of the subject.

In the next analysis, the disciplines were intercorrelated over their mean ratings shown in Table 1. The resulting correlations may be viewed as profile similarity coefficients. A high correlation between two disciplines would suggest a similar profile of mean ratings over the 21 rating items, and conversely a low correlation would imply a dissimilar profile of mean ratings over items. The results of this profile analysis is presented in Table 2.

The correlations in Table 2 indicate that Education and Social Science instructors are the most dissimilar. Education instructors tended to receive high ratings on items where Social Science instructors received low ratings. A significant ($\alpha = .05$) negative correlation was also observed between Education and Science and Mathematics. A significant positive correlation was observed between Science and Mathematics instructors, and Business instructors, suggesting that a common set of strong and weak attributes was exhibited by instructors in those disciplines.

The next analysis consisted of correlating the mean ratings on items 1 thru 20 with the mean rating on the general rating item (#21), "In general, the instructor taught the class effectively." This analysis was conducted separately for each discipline. If an item correlated highly with item 21, the attribute assessed by that item was assumed to be an important teaching attribute. This analysis is presented in Table 3.

The correlations in Table 3 indicate that the great majority of the items on the IIQ correlated highly with item 21. Previous factor analyses of the IIQ (Pohlmann, 1973) revealed a strong general factor running throughout the questionnaire, so the high correlations in Table 3 were not too

surprising. While the correlations in Table 3 tended to be high, they were not uniformly high, and the variation in the correlations was of primary concern in this study.

For the entire sample, the items which made strong contributions to item 21 were items 5, "Knew if students understood him.", 11, "Increased students' appreciation of the subject matter.", 7, "Answered impromptu questions satisfactorily.", 14, "Achieved the specified objectives of the course.", and 9, "Gave several examples to explain complex topics".

The results in Table 3 also revealed a highly consistent pattern of correlations across the five disciplines. This implied that the students in the various disciplines tended to agree on the attributes that were indicative of effective teaching. In order to examine the inter-discipline similarity issue further, the disciplines were intercorrelated over the item correlations presented in Table 3. The resulting R matrix is presented in Table 4. The correlations in Table 4 further demonstrate the strong agreement among students taking courses in the various disciplines. Students taking courses in the five disciplines examined in this study did not differ materially in their opinions of what teacher attributes characterize effective teaching.

DISCUSSION

The purposes of this study were 1. to describe differences in instructor attributes in five disciplines, 2. to identify those instructor characteristics which account for variation in general student rating of teaching effectiveness, and 3. to determine if the teacher

characteristics that contribute to high student ratings differ among five disciplines.

The results relating to the first purpose mentioned above indicated that different teaching styles are exhibited by instructors in the five disciplines examined in this study. Science, Humanities and Business instructors received the highest ratings on making clear assignments and being prepared for class. Social Science instructors obtained high ratings on knowledge of subject matter and giving several examples to explain complex topics. Education instructors received their highest ratings on specifying the objectives of the course and increasing students' appreciation of the subject matter.

The students' who participated in this study rated highly those instructors who 1. knew when students understood them, 2. increased students' appreciation of the subject matter, 3. answered impromptu questions satisfactorily, 4. achieved the specified objectives of the course, and 5. gave several examples to explain complex ideas. In general, students rated instructors favorably if they were perceived as effective in communicating subject matter to students, and communicating the subject in a way that helped stimulate student interest in the material.

There were no substantial differences among students in the five disciplines in their perceptions of the importance of teacher attributes that characterized teaching effectiveness. The inter-discipline similarity coefficients reported in Table 4 reveal highly consistent patterns in the importance attached to the various teacher attributes by students. Students, regardless of their discipline, tend to agree on the teacher attributes

indicative of effective instruction.

These results suggested that there are teacher attributes which are consistently perceived as important by students, regardless of their disciplines, while teaching styles differed among the disciplines. It was also apparent that those disciplines that received the highest ratings on the items students perceived as important also received the highest overall student ratings. Consequently students tended to reward, with good ratings, those teachers who exhibited the attributes students perceived as important determiners of effective instruction.

These results also have implications for universities who rely on student ratings to evaluate their instructors. This study found considerable differences among five disciplines on both the general level of ratings received (Table 1), and the profiles of mean ratings (Table 2). It would therefore behoove institutions to allow for discipline differences in the use and interpretation of student rating results. Allowances for discipline differences could be made by comparing faculty members only with their discipline peers or developing discipline specific student rating instruments.

Student ratings, like any assessment tool, can provide very meaningful information only if they are properly interpreted. This study indicates that a proper interpretation of student rating results must include allowances for expected discipline differences.

REFERENCES

Costin, F., Survey of opinions about lecturers. University of Illinois, Department of Psychology, 1968, (Mimeographed).

Costin, F., Greenough, W. T., and Menges, R. J. Student ratings of college teaching: reliability, validity and usefulness. Review of Educational Research, 1972, 41, 511-535.

Crawford, P. L., and Bradshaw, H. L. Perception of characteristics of effective university teachers: A scaling analyses. Educational Psychological Measurement, 1968, 28, 1079-1085.

Desphande, A. S., Webb, S. C., and Marks, E. Student perceptions of engineering instructor behaviors and their relationships to the evaluation of instructors and courses. American Educational Research Journal, 1970, 7, 289-305.

Downie, N. W. Student evaluation of faculty. Journal of Higher Education, 1952, 23, 495-496, 503.

Gadzella, B. M. College student views and ratings of an ideal professor. College and University, 1968, 44, 89-96.

Isaacson, R. L., McKeachie, W. J., and Milholland, J. E. Correlation of teacher personalitiy variables and student ratings. Journal of Educational Psychology, 1963, 54, 110-117.

McKeachie, W. J., Lin, Y., and Mann, W. Student ratings of teacher effectiveness: validity studies. American Educational Research Journal, 1971, 8, 435-445.

Pohlmann, J. T. Evaluating instructional effectiveness with the instructional improvement questionnaire. Unpublished technical report. Southern Illinois University, Testing Center, 1973.

Turner, R. L. Good teaching and its contexts. Phi Delta Kappan, 1970, 51, 155-158.

Table 1

Mean Standard Scores (T-scores) Obtained on 21 IIQ Items in Five Disciplines *

Item	Science and Math N=349	Education N=157	Social Sciences N=596	Humanities N=249	Business N=88
1. Prepared for class	48.9	50.4	50.6	54.0	50.4
2. Made clear assignments	50.1	49.1	49.9	54.0	50.8
3. Set clear standards for grading	48.9	50.9	49.0	51.1	49.2
4. Graded fairly	49.1	50.1	49.3	53.2	48.5
5. Knew if students understood him	46.1	52.5	49.3	53.9	48.3
6. Spoke understandably	45.9	53.5	48.9	53.7	50.2
7. Answered impromptu questions satisfactorily	47.3	52.1	49.4	54.6	50.0
8. Showed an interest in the course	46.8	52.6	50.0	53.6	48.6
9. Gave several examples to explain complex ideas	46.4	51.7	50.8	53.3	48.5
10. Accepted criticism and suggestions	47.8	50.6	49.7	53.6	47.0
11. Increased your appreciation for the subject	46.6	53.7	49.6	53.4	48.0
12. Was dependable in holding class as scheduled	50.6	52.3	48.8	53.1	50.8
13. Specified objectives of the course	47.5	54.9	48.1	52.6	48.3
14. Achieved the specified objectives of the course	48.2	53.8	48.4	53.4	47.8
15. Promptly returned homework and tests	51.5	51.8	49.0	52.7	50.2
16. Showed an interest in students	47.3	52.6	48.8	52.8	47.7
17. Knew his subject matter	48.9	50.7	50.7	53.3	50.2
18. Was available outside of class	48.3	50.9	49.9	52.7	50.1
19. Encouraged student participation	44.6	54.1	48.7	54.0	49.4
20. The course was well organized	48.0	52.7	49.6	52.9	49.8
21. In general, taught the class effectively	47.7	52.0	49.2	53.9	49.1
Mean Rating for all items	47.9	52.0	49.4	53.3	49.2

* A high mean connotes a favorable evaluation.

Table 2

The Pearson Correlations Among Disciplines

Based on Mean Ratings Across

21 IIQ Items (N=21)

Discipline	2	3	4	5
1. Science and Math	-.56*	.06	-.32	.44*
2. Education		-.62*	.00	-.30
3. Social Sciences			.25	.21
4. Humanities				.08
5. Business				

* r significantly different from 0, α = .05, two-tailed

Table 3

Correlations between Item 21, "In general, the instructor taught the class effectively", and Items 1 through 20 from the IIQ for Five Academic Disciplines.

Item	Science and Math N=349		Education N=157		Social Sciences N=596		Humanities N=249		Business N=88	
	r	Rank	r	Rank	r	Rank	r	Rank	r	Rank
1	.75	7.5	.81	11.5	.81	6	.79	11	.79	6
2.	.64	16	.81	11.5	.76	11	.75	14.5	.66	15
3	.60	17	.62	18	.64	17	.63	19	.49	19
4	.73	9	.71	17	.69	8.5	.74	16	.68	14
5	.85	1	.91	1	.84	3.5	.86	3.5	.89	1.5
6	.68	13.5	.76	13	.76	11	.83	6	.78	7.5
7	.82	3	.89	3	.84	3.5	.88	1	.84	5
8	.72	11	.83	9	.79	8.5	.82	7.5	.74	10
9	.82	3	.86	4	.81	6	.78	12	.85	4
10	.72	3	.84	6.5	.73	13	.82	7.5	.69	12
11	.82	3	.90	2	.87	1	.87	2	.86	3
12	.55	19	.46	20	.52	19	.56	20	.51	18
13	.68	13.5	.72	16	.79	8.5	.69	17	.69	12
14	.79	5	.84	6.5	.86	2	.86	3.5	.89	1.5
15	.42	20	.55	19	.48	20	.64	18	.45	20
16	.78	6	.84	6.5	.76	11	.84	5	.76	9
17	.67	15	.75	14	.71	14	.81	9	.69	12
18	.57	18	.73	15	.61	18	.75	14.5	.61	16
19	.75	7.5	.84	6.5	.67	16	.80	10	.59	17
20	.72	11	.82	10	.81	6	.77	13	.78	7.5

Table 4

The Pearson Correlations Among Disciplines

Based on Correlations Between IIQ Item 21 and

the Other IIQ Items Appearing in Table 3

(N=20)

	Discipline	2	3	4	5
1.	Science and Math	.86*	.88	.79	.87
2.	Education		.86	.92	.83
3.	Social Sciences			.78	.93
4.	Humanities				.83
5.	Business				

* All correlations were significantly different from 0, α =.05, two-tail

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TESTING CENTER

SOUTHERN ILLINOIS UNIVERSITY AT CARBONDALE

TM005 268

EVALUATING INSTRUCTIONAL EFFECTIVENESS WITH THE INSTRUCTIONAL IMPROVEMENT QUESTIONNAIRE

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TM 005 268

One of the most perplexing problems facing instructors and administrators is the evaluation of an instructor's teaching effectiveness. All would agree that any evaluation method devised for this purpose should possess characteristics that will insure fairness and objectivity. A system of evaluation should be objective in that the results derived from it will be (1) free of administrator's subjective biases, (2) based on concrete observations, and (3) a common system applied to all faculty members equally. Further, the information obtained from the evaluation should provide constructive suggestions for the improvement of instruction.

Student ratings of instructors are perhaps the most researched, and most reliable means for evaluating instructors. The research history of student evaluations extends back into the 1920's. In sum, the research evidence amassed on student ratings indicates that they are a very reliable index of instructor excellence. However, regardless of how reliable student ratings may be, they provide only one of many possible means for evaluating instructors. The ideal evaluation system should contain numerous measures of instructor effectiveness such as peer evaluation, administrator evaluations, and measures of student learning, in addition to student ratings.

Student ratings should be included in the evaluation of instruction for a number of reasons. First, students have ample opportunity to observe an instructor in the act of teaching. Hence, their evaluations are based upon first hand experience. Rarely do an instructor's peers or chairman have time to spend many hours observing the instructor. Usually colleague's impressions of an instructor's teaching ability are based upon second hand information, much of which is informal student comment. Secondly, when ratings are based upon many raters (students) they are much more reliable than ratings based upon

a sample of one colleague or chairman. Thirdly, students are the best judges of certain aspects of a course. For example: students are the best judges of whether they understand material presented in lectures or the text. They are also the best ones to determine if prerequisite courses have prepared them to receive new material.

In response to the need for timely and reliable student feedback on instructor and course effectiveness, the Instructional Improvement Questionnaire (IIQ) was developed at Southern Illinois University's Counseling and Testing Center. The remaining sections of this document describe the IIQ, the computer report accompanying its use, and the research that has been conducted with the IIQ.

The Instructional Improvement Questionnaire (IIQ)

The IIQ is a questionnaire designed to collect evaluative feedback from students on their instructors and courses. A copy of the IIQ is provided in the Appendix for your inspection. There are four parts to the IIQ: (1) a class characteristics section, (2) an instructor evaluation section, (3) a course evaluation section and (4) an optional item section. These sections are numbered on the copy of the IIQ provided in the Appendix.

The class characteristics section collects information from the student on variables that have been related to student ratings of instructors, or are of administrative interest. The data obtained in this section consists of

(1) student grade point average
(2) the grade expected by the student in the course he is evaluating
(3) the number of hours per week spent studying for the course
(4) student class level
(5) whether the course is required or an elective
(6) student sex
(7) student college affiliation

Some of the information obtained in this section has been shown to be related to the ratings given by students. Research has indicated that there is a tendency for upperclassmen to give better ratings than lower classmen, and elective courses tend to get better ratings than required courses. When information on these variables is available it is possible to moderate evaluative decisions on the basis of such information. For example poor ratings obtained by an instructor teaching a required freshman level course, would not weigh as negatively, as the same rating obtained by an instructor teaching an elective graduate level course. The information obtained in the class characteristics section allows for special consideration of such factors that may tend to bias the evaluations offered by students.

The instructor evaluation section consists of twenty items that allow the student to rate various aspects of instructor performance. On each item the student is asked to rate his instructor on a five-point scale, ranging from "exceptional performance" to "improvement definitely needed."

The course evaluation section consists of twenty statements about various aspects of the course. Some statements are phrased positively and some are phrased negatively. The students respond to each statement on a five-point scale ranging from "strongly agree" to "strongly disagree." A good rating is obtained if students agree with positive statements, or disagree with negative statements.

The optional item section consists of sixty reponse positions that the instructor may use to record student responses to locally supplied items. It is virtually impossible to design one questionnaire to satisfy everyone's needs for student feedback. There are many specific aspects of a course that

may be evaluated by supplying students with optional items. Specific chapters in a book, novel teaching strategies, handouts and class projects may all be evaluated in this section. All that is required is for the instructor to supply his students with a list of items numbered anywhere from 41 to 100, and instruct the students to respond to those items in the optional item section. The only restriction on the optional questions is that the number of response options must be no more than five.

Computer Analysis of the IIQ Results

The completed IIQ's are processed in two phases. During the first processing phase, the students' answer sheets are scanned on the SIU Testing Center's OpScan 100 DM optical scanner and a coded image of each students' responses is written on a magnetic tape. This tape is then used as input to the computer during the second phase of processing. A computer program developed at the Testing Center takes the magnetic tape prepared by the scanning machine, analyzes the data residing on the tape, and produces a printed report of the results. A copy of this printed report may be found in the Appendix. There are four standard sections and an optional fifth section in the printed report.

Part 1: Instructor Evaluation. The first page of the computer printout reports the results of the instructor evaluation part of the IIQ. A heading is printed across the top of the page which contains course and instructor identifying information. The number of students who evaluated the course is also presented in the heading.

The report then provides a listing of the item statements, the percent of students who marked each of the response options, an item mean, and an item decile.

The item mean is determined by assigning weights ranging from 1 to 5 to each of the response options. A weight of 1 is assigned to the response option "Improvement Definitely Needed", and a weight of 5 is assigned to the response "Exceptional Performance." The item mean is simply the average of these weights for an item. The item means may range from 1 to 5, and a high mean implies a good rating.

The decile values provided at the right of the item mean reflect the relative location of a particular item mean among the means for a normative group of 2,363 courses at SIU. The deciles, range from 0 to 9, with 9 being the best decile attainable. If the decile value is multiplied by 10, that product will indicate the approximate percentage of courses in the normative sample that fell below one's item mean. For example: if the instructor received a decile value of 7 for an item, that would indicate that approximately 70% of the normative group fell below him or, his item mean placed him in the upper 30% of the normative group on the attribute assessed by that item.

Part II: Course Evaluation. The second page of the printout contains the results for the course evaluation section of the IIQ. The item statements, response percentages, item means, and deciles are given for each item. Some of the items in this section are phrased negatively (e.g., item 31); consequently the scoring is reversed on these items so that disagreement leads to a high mean. A high mean implies a good rating for all items. Decile values are also provided for each item.

Analysis by Subscores. The third page of the report presents the results of the evaluation by subscores. The subscores are average item means for groups of items that have similar content. For example: the Course Difficulty subscore is the average of the item means for items 25,36,38 and 39. Each

of these items is concerned with course attributes related to difficulty. By combining these items into a common score, that score serves as a more reliable index of course difficulty than any one of the original items. The subscores also allow for summarizing the results of the evaluation. It is much easier to interpret five subscores than 40 item means. However, analysis of the item by item results is essential if an instructor wants to get the best picture of his course.

A norm table is provided for each subscore, so that an instructor can determine the relative location of his subscores in different norm groups. The decile value of each subscore are presented for norm groups of required and elective courses at five course levels. These norm tables allow an instructor to compare his results with other courses similar to his in terms of course level and elective status. This comparison is fairer than comparing all instructors against a common standard, since research indicates different ratings are expected depending upon course level and whether or not the coure was required.

The Class Characteristics Section. The next page on the printout is a tabulation of the students responses to the student characteristics information obtained on the IIQ. This information may prove to be helpful for identifying peculiar class characteristics. The GPA information provides an index of the academic ability of the students enrolled in the course. The number of outside study hours per week provides an index of the work level required of students. This information may lead an instructor to increase or decrease the course requirements depending upon the number of hours the students report studying. Information on variables such as expected grades, year in school and college affiliation are also provided in this section.

Optional Items Section. The last page of the printout is an optional section. The results of the students' responses to any optional items that were included are presented here. If no optional items were included, no results will be printed. The results consist of response percentages and item means. Up to sixty items may be included in the optional item section.

Summary of Research on the IIQ

Research conducted on the IIQ has fallen into three broad categories: (1) faculty reactions to the IIQ, (2) studies of the reliability or stability of IIQ results, and (3) studies of the relationship between selected class characteristics variables and IIQ results.

Faculty Reaction. Any evaluation system, if it is to be received favorably by those evaluated, must be perceived as providing information which is accurate, and helpful for making constructive changes in teaching behavior. In order to determine if the IIQ evaluation possessed these attributes, a group of faculty members who had participated in the IIQ evaluation program were polled, via a questionnaire. One hundred and two useable questionnaires were available for analysis. This figure represented a 53% return rate. One of the questions on the questionnaire was directed at the helpfulness of the IIQ results in improving instruction. Five response options were provided, and the percent of faculty choosing each option was as follows:

Response Option	Percent
very helpful	25
moderately helpful	43
somewhat helpful	27
not helpful	3
waste of time	1

These figures indicate that the IIQ results are perceived as helpful by a majority of the faculty who use the service.

Another question included in the questionnaire asked the faculty to rate the degree to which they felt the results of the IIQ evaluation represents an accurate assessment of their teaching performance. Four response options were available, and the percentage of responses at each option was as follows:

Response Option	Percent
Yes, definitely	13
Yes, generally	70
Yes, to a limited extent	15
No relationship	0

These results suggest that the faculty members using the IIQ feel that the results represent generally accurate indications of their teaching effectiveness.

Reliability and Stability of IIQ Results

One of the most important attributes of any measuring device, such as the IIQ, is its reliability. A test is considered reliable if the measurements (scores) obtained from it are stable. A test would be unreliable if the results obtained by it varied, such that, at one time the results indicated that the instructor was good, but at another time, under the same circumstances, the results indicated he was poor. One aspect of the reliability of instructor ratings is the stability of results over changes in students, or the degree to which different students agree on the effectiveness of the instructor. Another aspect of reliability in this context is concerned with the consistency of student responses to the questions on the IIQ. Consistency of responding is present when students respond similarly to similar items. Consistent responding would be present when students who agreed with the statement, "The instructor was effective", would also agree

with the statement, "The instructor taught effectively.". If students agreed with both of these statements, it may be said that they were consistent in their responses. These two interpretations of the concept of reliability give rise to two methods for assessing the reliability of a test, one method is the test-retest method, and the other is the internal consistency method. Test-retest reliability is established if the results of a test obtained at time 1 correlate with the results from the same test at time 2. Internal consistency is established if responses to similar items are correlated.

Reliability studies with IIQ suggest that it possesses both test-retest and internal consistency reliability. Table 1 presents the results of two reliability studies undertaken with the IIQ. The results are presented for the five subscales of the IIQ.

The reliability coefficient used to assess the internal consistency of the IIQ subscales was Cronbach's alpha. With the exception of the General Course Rating Scale, the coefficients were above .8. The test-retest coefficients were calculated by correlating the results of 68 instructors ratings for two different quarters. The results were taken from courses where the instructors were teaching either the same course, or courses in the same sequence. The interval between the evaluations was one quarter, or approximately three months.

Relationships between the IIQ Subscores and Other Variables. The data from which these analyses were derived were obtained from 1,247 courses evaluated with the IIQ in 1971. The data was analyzed using the course as the data unit. The following indices were then computed on each course:

TABLE 1

RELIABILITY COEFFICIENTS FOR THE IIQ SUBSCALES

Subscale	Reliability Coefficients: Internal Consistency (Cronbach's α) N=888 instructors	Reliability Coefficients: Three Month Test-Retest N=68 instructors
General Course Rating	.62	.67
Student Orientation	.85	.71
Course Difficulty	.89	.69
Assignments and Grading	.85	.76
Presentation of Material	.93	.71

Class Size; the number of persons completing the questionnaire for the course.
Percent Male; the percentage of the class that was male.
Student Class; the average class level of the students enrolled in the course (1 = Freshman, 2 + Sophomore,..., 5 = Graduate Student).
GPA; the average self-reported GPA of the students in the class.
Expected Grade; the average grade expected by students in the class. (A=5,B=4, C=3, D=2, Fail=1).
Percent Elective; the percentage of the students taking the course as an elective.
Outside Hours; the average number of hours per week reportedly spent by students on studying or preparing for the course.
General Rating; the average rating given to instruction at SIU, measured on a 5-point scale.

These indices were then correlated with each of the subscale scores from the IIQ. The results of these analyses are presented in Table 2.

With the exception of the average grade expected, the correlations of the class characteristics variables with the various subscores is low. In general the most important variables, in terms of their correlation with ratings, were expected grades, and the percent of students taking the course as an elective. It was interesting to note that the average number of study hours tended to be independent of ratings of the instructor. This result tends to contradict the notion that instructors can "buy" good ratings by offering a course that is not too demanding. The general rating of instruction at SIU was found to be independent of specific instructor and course ratings. This finding suggests that students rate specific courses independently of their attitudes about the quality of instruction at an entire institution.

TABLE 2

THE ZERO ORDER CORRELATIONS
BETWEEN STUDENT RATINGS
AND CLASS CHARACTERISTICS VARIABLES
(N=1247)

Class Characteristics Variables	STUDENT RATINGS: General Course Rating	Student Orientation	Course Difficulty*	Assign-ments & Grading	Presen-tation of Material
Class Size	-.16	-.25	-.11	-.15	-.17
Percent Male	-.09	-.08	-.20	-.02	-.09
Student Class	.17	.21	.10	.06	.10
GPA	.11	.18	.05	.08	.12
Expected Grade	.42	.48	.51	.33	.35
Percent Elective	.27	.21	.21	.12	.15
Outside Hours	.10	.06	-.28	.07	.02
General Rating	.09	.01	.02	.06	.03

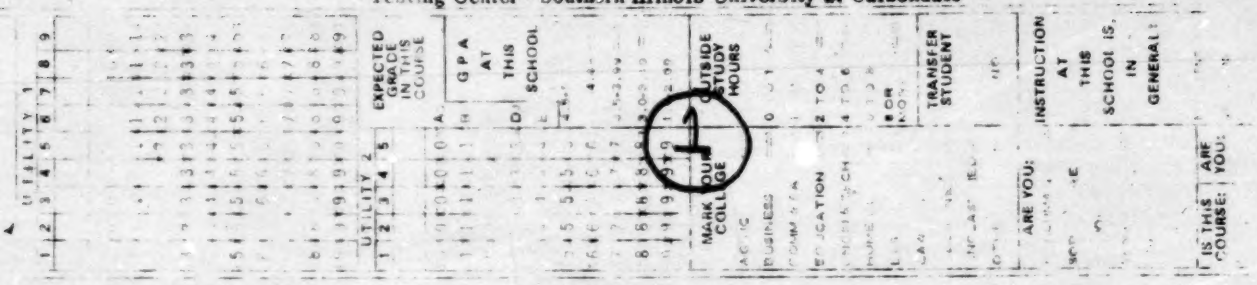
*High Scores on the Course Difficulty scale reflect an easy course.

APPENDIX 1

THE INSTRUCTIONAL IMPROVEMENT QUESTIONNAIRE

INSTRUCTIONAL IMPROVEMENT QUESTIONNAIRE

Testing Center - Southern Illinois University at Carbondale



PART I: INSTRUCTOR EVALUATION (ITEMS 1-20)

RESPONSE OPTIONS:

E = *EXCEPTIONAL PERFORMANCE* — W = *WEAK PERFORMANCE*

V = *VERY GOOD PERFORMANCE* — I = *IMPROVEMENT DEFINITELY NEEDED*

G = *GOOD PERFORMANCE*

1		Prepared for class
2		Made clear assignments
3		Set clear standards for grading
4		Graded fairly
5		Knew if students understood him
6		Spoke understandably
7		Answered impromptu questions satisfactorily
8		Showed an interest in the course
9		Gave several examples to explain complex ideas
10		Accepted criticism and suggestions
11		Increased your appreciation for the subject
12		Was dependable in holding class as scheduled
13		Specified objectives of the course
14		Achieved the specified objectives of the course
15		Promptly returned homework and tests
16		Showed an interest in students
17		Knew his subject matter
18		Was available outside of class
19		Encouraged student participation
20		In general, taught the class effectively

PART II: COURSE EVALUATION (ITEMS 21-40)

RESPONSE OPTIONS:

SA = *STRONGLY AGREE* — D = *DISAGREE*

A = *AGREE* — SD = *STRONGLY DISAGREE*

N = *NEITHER AGREE NOR DISAGREE*

21		This course was a good learning experience.
22		The content of this course was good.
23		The course was well organized.
24		I had trouble paying attention in class.
25		There should be additional prerequisites.
26		There should be fewer prerequisites.
27		This course was very interesting.
28		The amount of required work was appropriate.
29		This course was one of the best I have taken.
30		The tests covered the course material well.
31		This course was a waste of time.
32		The textbook was good.
33		Audio-visuals could be used more effectively.
34		This course should be taught in some other way.
35		I covered this material in other courses.
36		The course material was too difficult.
37		This course should continue to be offered.
38		The reading assignments were hard to understand.
39		I was often confused.
40		Generally, the course was good.

PART III: OPTIONAL (ITEMS 41-100)

COMPLETE SECTION BELOW ACCORDING TO YOUR INSTRUCTOR'S DIRECTIONS

41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

USE NO. 2 PENCIL ONLY!

DIRECTIONS: 1. Print Instructor's Name ____ and Section Number ____ Date ____

2. Print Course Number

3. Respond to the items presented frankly and completely - one response per item. *(SEE RESPONSE OPTIONS)*

DC 30-814

OPTICAL SCANNING CORPORATION

APPENDIX 2

SAMPLE COMPUTERIZED REPORT OF IIQ RESULTS

INSTRUCTIONAL IMPROVEMENT QUESTIONNAIRE ANALYSIS
LOG NUMBER = [redacted], NUMBER OF STUDENTS = 22
INSTRUCTOR: [redacted], COURSE: [redacted], SECTION: I
WINTER 1973

PART I: INSTRUCTOR EVALUATION

RESPONSE MEANING
BLANK=SPOILED OR NO RESPONSE
E=EXCEPTIONAL PERFORMANCE
V=VERY GOOD PERFORMANCE
G=GOOD PERFORMANCE
W=WEAK PERFORMANCE
I=IMPROVEMENT DEFINITELY NEEDED

ITEM NUMBER	ITEM STATEMENT	RESPONSE PERCENTAGES						ITEM MEAN	CAMPUS DECILE
		BLANK	E	V	G	W	I		
1	PREPARED FOR CLASS	0.0	36.4	54.5	9.1	0.0	0.0	4.3	6
2	MADE CLEAR ASSIGNMENTS	0.0	40.9	50.0	9.1	0.0	0.0	4.3	8
3	SET CLEAR STANDARDS FOR GRADING	0.0	4.5	31.8	59.1	4.5	0.0	3.4	3
4	GRADED FAIRLY	9.1	27.3	50.0	13.6	0.0	0.0	4.1	7
5	KNEW IF STUDENTS UNDERSTOOD HIM	0.0	22.7	45.5	31.8	0.0	0.0	3.9	7
6	SPOKE UNDERSTANDABLY	0.0	40.9	45.5	13.6	0.0	0.0	4.3	7
7	ANSWERED IMPROMPTU QUESTIONS SATISFACTORILY	0.0	45.5	36.4	18.2	0.0	0.0	4.3	7
8	SHOWED AN INTEREST IN THE COURSE	0.0	77.3	22.7	0.0	0.0	0.0	4.8	8
9	GAVE SEVERAL EXAMPLES TO EXPLAIN COMPLEX IDEAS	4.5	45.5	31.8	18.2	0.0	0.0	4.3	7
10	ACCEPTED CRITICISM AND SUGGESTIONS	9.1	13.6	36.4	40.9	0.0	0.0	3.7	5
11	INCREASED YOUR APPRECIATION FOR THE SUBJECT	0.0	18.2	54.5	27.3	0.0	0.0	3.9	6
12	WAS DEPENDABLE IN HOLDING CLASS AS SCHEDULED	0.0	59.1	31.8	9.1	0.0	0.0	4.5	5
13	SPECIFIED OBJECTIVES OF THE COURSE	0.0	36.4	36.4	27.3	0.0	0.0	4.1	7
14	ACHIEVED THE SPECIFIED OBJECTIVES OF THE COURSE	0.0	22.7	50.0	27.3	0.0	0.0	4.0	6
15	PROMPTLY RETURNED HOMEWORK AND TESTS	0.0	50.0	40.9	9.1	0.0	0.0	4.4	7
16	SHOWED AN INTEREST IN STUDENTS	0.0	45.5	50.0	4.5	0.0	0.0	4.4	7
17	KNEW HIS SUBJECT MATTER	0.0	81.8	13.6	4.5	0.0	0.0	4.8	7
18	WAS AVAILABLE OUTSIDE OF CLASS	0.0	54.5	27.3	18.2	0.0	0.0	4.4	8
19	ENCOURAGED STUDENT PARTICIPATION	9.1	18.2	45.5	27.3	0.0	0.0	3.9	5
20	IN GENERAL, TAUGHT THE CLASS EFFECTIVELY	0.0	27.3	63.6	9.1	0.0	0.0	4.2	6

INSTRUCTIONAL IMPROVEMENT QUESTIONNAIRE ANALYSIS
LOG NUMBER = [redacted] NUMBER OF STUDENTS = 22
INSTRUCTOR: [redacted], COURSE: [redacted], SECTION: 1
WINTER 1973

PART II: COURSE EVALUATION

RESPONSE MEANING
BLANK=SPOILED OR NO RESPONSE
SA=STRONGLY AGREE
A=AGREE
N=NEITHER AGREE NOR DISAGREE
D=DISAGREE
SD=STRONGLY DISAGREE

ITEM NUMBER	ITEM STATEMENT	RESPONSE PERCENTAGES						ITEM MEAN	CAMPUS DECILE
		BLANK	SA	A	N	D	SD		
21	THIS COURSE WAS A GOOD LEARNING EXPERIENCE.	72.7	4.5	18.2	4.5	0.0	0.0	4.0	6
22	THE CONTENT OF THIS COURSE WAS GOOD.	72.7	4.5	13.6	9.1	0.0	0.0	3.8	5
23	THE COURSE WAS WELL ORGANIZED.	72.7	4.5	18.2	4.5	0.0	0.0	4.0	6
24	I HAD TROUBLE PAYING ATTENTION IN CLASS.*	72.7	0.0	9.1	4.5	4.5	9.1	3.5	5
25	THERE SHOULD BE ADDITIONAL PREREQUISITES.*	72.7	0.0	0.0	4.5	22.7	0.0	3.8	6
26	THERE SHOULD BE FEWER PREREQUISITES.*	72.7	0.0	0.0	13.6	13.6	0.0	3.5	6
27	THIS COURSE WAS VERY INTERESTING.	72.7	4.5	18.2	4.5	0.0	0.0	4.0	7
28	THE AMOUNT OF REQUIRED WORK WAS APPROPRIATE.	72.7	4.5	22.7	0.0	0.0	0.0	4.2	8
29	THIS COURSE WAS ONE OF THE BEST I HAVE TAKEN	72.7	0.0	18.2	0.0	9.1	0.0	3.3	5
30	THE TESTS COVERED THE COURSE MATERIAL WELL.	72.7	9.1	13.6	0.0	0.0	4.5	3.8	5
31	THIS COURSE WAS A WASTE OF TIME.*	72.7	0.0	4.5	4.5	9.1	9.1	3.8	4
32	THE TEXTBOOK WAS GOOD.	72.7	0.0	13.6	4.5	4.5	4.5	3.0	4
33	AUDIO-VISUAL AIDS COULD BE USED MORE EFFECTIVELY.*	72.7	0.0	4.5	18.2	4.5	0.0	3.0	3
34	THIS COURSE SHOULD BE TAUGHT IN SOME OTHER WAY.*	72.7	0.0	0.0	9.1	18.2	0.0	3.7	7
35	I COVERED MUCH OF THIS MATERIAL IN OTHER COURSES.*	72.7	0.0	0.0	0.0	22.7	4.5	4.2	8
36	THE COURSE MATERIAL WAS TOO DIFFICULT.*	72.7	0.0	0.0	9.1	13.6	4.5	3.8	6
37	THIS COURSE SHOULD CONTINUE TO BE OFFERED.	72.7	9.1	18.2	0.0	0.0	0.0	4.3	6
38	THE READING ASSIGNMENTS WERE HARD TO UNDERSTAND.*	72.7	0.0	0.0	13.6	13.6	0.0	3.5	6
39	I WAS OFTEN CONFUSED.*	72.7	0.0	0.0	4.5	22.7	0.0	3.8	8
40	GENERALLY, THE COURSE WAS GOOD.	72.7	9.1	13.6	4.5	0.0	0.0	4.2	6

* ITEMS WITH AN ASTERISK(*) HAVE HAD THEIR SCORING REVERSED SO THAT DISAGREEMENT LEADS TO A HIGH MEAN. FOR ALL ITEMS A HIGH MEAN IMPLIES A GOOD RATING. THE ITEM MEANS RANGE ON A FIVE (5) POINT SCALE FIVE (5) BEING THE HIGHEST SCORE ATTAINABLE. THE RESPONSE PERCENTAGES HAVE NOT BEEN CHANGED.

INSTRUCTIONAL IMPROVEMENT QUESTIONNAIRE ANALYSIS
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ANALYSIS BY SUBSCORES:

THE FOLLOWING SUBSCORES WERE DERIVED BY AVERAGING ITEM MEANS FOR ITEMS THAT HAVE COMMON OR SIMILAR CONTENT. THE COURSE NORMATIVE DECILES REPRESENT THE RELATIVE LOCATION OF YOUR SUBSCALE SCORES IN THE VARIOUS NORMATIVE GROUPS BASED UPON REQUIRED AND ELECTIVE COURSES AT THE FIVE COURSE LEVELS. FOR EXAMPLE: A DECILE OF THREE (3) IN THE 300 LEVEL-REQUIRED COURSE CELL MEANS THAT YOUR SUBSCALE SCORE PLACED YOU IN A GROUP, BELOW WHICH, 30 PERCENT OF THE SUBSCORES FOR 300 LEVEL REQUIRED COURSES FELL. SIMILARLY, A DECILE OF 4 WOULD IMPLY THAT APPROXIMATELY 40 PERCENT OF THE NORMATIVE SAMPLE FELL BELOW YOUR SUBSCORE. THE DECILES RANGE FROM 0 TO 9, WITH 9 BEING THE HIGHEST DECILE ATTAINABLE

SUBSCORE NAME	ITEMS INCLUDED	YOUR SCORE	NORM DECILES	100	200	300	400	500
GENERAL COURSE RATING	21 22 23 27 29 31 37 40	3.9	REQUIRED	8	8	8	6	5
			ELECTIVE	4	6	5	4	0
STUDENT ORIENTATION	10 16 18 19	4.1	REQUIRED	7	7	7	6	4
			ELECTIVE	6	8	6	5	4
COURSE DIFFICULTY	25 36 38 39	3.7	REQUIRED	7	7	7	7	7
			ELECTIVE	7	6	6	5	5
ASSIGNMENTS AND GRADING	2 3 4 13 14	4.0	REQUIRED	7	7	8	7	7
			ELECTIVE	5	8	7	6	4
PRESENTATION OF MATERIAL	1 5 6 7 9 20	4.2	REQUIRED	8	8	8	8	6
			ELECTIVE	6	8	8	7	4

INSTRUCTIONAL IMPROVEMENT QUESTIONNAIRE ANALYSIS
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INSTRUCTOR: [redacted], COURSE: [redacted], SECTION: 1
WINTER 1973

PART III: CLASS CHARACTERISTICS DATA

REPORTED GPA:

BLANK	4.5-5.0	4.0-4.5	3.5-4.0	3.0-3.5	1.0-3.0
54.5%	13.6%	13.6%	18.2%	0.0%	0.0%

OUTSIDE STUDY HOURS PER WEEK:

BLANK	0-1	1-2	2-4	4-6	6-8	8 OR MORE
68.2%	0.0%	9.1%	0.0%	13.6%	9.1%	0.0%

TRANSFER STUDENT:

BLANK	YES	NO
63.6%	13.6%	22.7%

GENERAL RATING OF INSTRUCTION AT THIS SCHOOL:

BLANK	EXCELLENT	VERY GOOD	GOOD	WEAK	POOR
59.1%	0.0%	13.6%	22.7%	4.5%	0.0%

EXPECTED GRADE IN THIS COURSE:

BLANK	A	B	C	D	E
81.8%	4.5%	9.1%	4.5%	0.0%	0.0%

COLLEGE AFFILIATION:

BLANK	AGRICULT	BUSINESS	COMM?	EDUCATION	ENG&TECH	HOME EC	LAS
59.1%	0.0%	0.0%	0.0%	[illegible]	0.0%	0.0%	27.3%

LAW	MEDICINE	UNCLASS	OTHER
0.0%	0.0%	0.0%	4.5%

YEAR IN SCHOOL:

BLANK	FRESHMAN	SOPHOMORE	JUNIOR	SENIOR	GRAD	OTHER
54.5%	0.0%	0.0%	4.5%	40.9%	0.0%	0.0%

SEX:

BLANK	MALE	FEMALE
59.1%	18.2%	22.7%

COURSE TYPE:

BLANK	REQUIRED	ELECTIVE
59.1%	9.1%	31.8%

INSTRUCTIONAL IMPROVEMENT QUESTIONNAIRE ANALYSIS
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OPTIONAL ITEMS:

ITEM	RESPONSE PERCENTAGES						MEAN
	BLANK	A	B	C	D	E	
71	90.9	0.0	4.5	4.5	0.0	0.0	3.5
73	4.5	13.6	54.5	13.6	0.0	13.6	3.6
74	0.0	27.3	50.0	18.2	0.0	4.5	4.0
75	0.0	22.7	68.2	4.5	4.5	0.0	4.1
76	9.1	27.3	40.9	18.2	0.0	4.5	3.9
77	0.0	18.2	77.3	4.5	0.0	0.0	4.1
78	0.0	59.1	31.8	9.1	0.0	0.0	4.5
79	0.0	45.5	40.9	4.5	9.1	0.0	4.2
80	4.5	36.4	45.5	9.1	4.5	0.0	4.2
81	0.0	63.6	36.4	0.0	0.0	0.0	4.6
82	0.0	68.2	31.8	0.0	0.0	0.0	4.7
83	0.0	54.5	40.9	4.5	0.0	0.0	4.5
84	0.0	27.3	59.1	9.1	4.5	0.0	4.1
85	0.0	36.4	59.1	4.5	0.0	0.0	4.3
86	0.0	0.0	0.0	4.5	77.3	18.2	1.9
87	0.0	36.4	45.5	13.6	4.5	0.0	4.1

FOR ADDITIONAL TECHNICAL AND SUPPORTING

INFORMATION SEE:

Elmore, Patricia B. and La Pointe, Karen A., Effects of Teacher Sex and Student Sex on the Evaluation of College Instructors, Journal of Educational Psychology, 1974, pp. 386-389.

Pohlmann, John T. A Multivariate Analysis of Selected Class Characteristic and Student Ratings of Instruction, Multivariate Behavioral Research, January 1975, pp. 81-92.

Pohlmann, John T. A Description of Teaching Effectiveness as Measured by Student Ratings, Journal of Educational Measurement, Spring 1975, Vol. 12, No. 1, pp.49-54.

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